INVESTIGATION OF CONCENTRATION OF ECONOMIC POWER

HEARINGS

BEFORE THE

TEMPORARY NATIONAL ECONOMIC COMMITTEE CONGRESS OF THE UNITED STATES

SEVENTY-FIFTH CONGRESS

THIRD SESSION

PURSUANT TO

Public Resolution No. 113

(Seventy-fifth Congress)

AUTHORIZING AND DIRECTING A SELECT COMMITTEE TO MAKE A FULL AND COMPLETE STUDY AND INVESTIGATION WITH RESPECT TO THE CONCENTRATION OF ECONOMIC POWER IN, AND FINANCIAL CONTROL OVER, PRODUCTION AND DISTRIBUTION OF GOODS AND SERVICES

PART 1 – 3

ECONOMIC PROLOGUE

DECEMBER 1, 2, AND 3, 1938

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(Created pursuant to Public Res. 113, 75th Cong.)

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INVESTIGATION OF CONCENTRATION OF ECONOMIC POWER

THURSDAY, DECEMBER 1, 1938

UNITED STATES SENATE,
TEMPORARY NATIONAL ECONOMIC COMMITTEE,
Washington, D. C.

The Temporary National Economic Committee met, pursuant to call, at 10:30 a. m., in the caucus room of the Senate Office Building, Senator Joseph C. O'Mahoney, presiding.

Present: Senators O'Mahoney (chairman), King, Borah, Representatives Sumners, Reece, Eicher; Messrs. Lubin, Hinrichs, Douglas, Frank, Patterson, Arnold, Berge, Ferguson, Davis, Oliphant, Peoples, Henderson.

Present also: Directors of studies, Dr. Willard Thorp, Commerce; Mr. Hugh B. Cox, Justice; Mr. Willis J. Ballinger, Federal Trade Commission; Mr. Thomas C. Blaisdell, Securities and Exchange Commission; Mr. J. J. O'Connell, Treasury; Miss Aryness Joy, Labor.

STATEMENT BY SENATOR O'MAHONEY

The CHAIRMAN. I will call the meeting to order.

At the beginning of this, the first public session of the Temporary National Economic Committee, which was formally established by resolution of Congress, approved June 16, 1938, it is appropriate that there should be incorporated in the record, first, the message of the President recommending the study which is now in progress, and second, the text of the resolution itself.

I offer these documents so that there may be, at the outset, a clear understanding of the nature and the function of this committee as well as of the purpose for which it was called into existence.

(The documents referred to were marked "Exhibits Nos. 1 and 2" and are included in the appendix on pp. 185 and 192.)

The CHAIRMAN. The President, in his message, declared that—

> Generally over the field of industry and finance we must revive and strengthen competition if we wish to preserve and make workable our traditional system of free private enterprise.

To accomplish this purpose, the President, in his message, recommended first, an increased appropriation to enable the Department of Justice to enforce more effectively existing antitrust laws; and, second, a comprehensive study of concentration in industry, of industrial price policies and of existing Government policies, and their effect upon trade and commerce.

With the first of these recommendations—the better enforcement of existing antitrust laws—this committee has nothing to do. Law

enforcement is the function of the Department of Justice, not of this committee, though we are authorized to make recommendations with respect to antitrust policy and procedure. The function of the committee is merely to study facts and to make report thereon with its findings and recommendations.

The committee is composed of 12 members, 6 from the legislative and 6 from the executive branch of the Government. The executive departments and commissions represented on the committee are, by the resolution, directed to appear before the Committee, or its designee, and present evidence or reports on matters within their jurisdiction under existing law.

It is this phase of the work which is now beginning.

The presentation of any evidence or report by any agency of the Government does not, of course, exhaust the power of the full committee. It may receive evidence on the same subjects from any other source or from any other witnesses. In due course, that will be done.

In the meantime, it should be clearly understood that no department or commission, no member of the committee, no employee or agent of the committee, no witness who appears here speaks for the committee. Such evidence as is presented is either on the authority of the agency which offers it or is received because the committee believes it will be useful in developing the facts which are later to be analyzed when the committee undertakes to make its report.

Whether this study will be fruitful of benefit to society or altogether futile depends largely upon two factors:

1. The manner in which it is conducted, and
2. The manner in which it is received by the public.

Let me say, therefore, in the language of a resolution unanimously adopted by the committee at its last session:

> That is the unanimous sense of this committee that its function and purpose is to collect and analyze, through the medium of reports and public hearings, available facts pertaining to the items specified in Public Resolution 113 (75th Cong.), in an objective, unbiased, and dispassionate manner, and that it is the purpose of the committee to pursue its work solely from this point of view.

The members of the committee are deeply sensible of the responsibility that rests upon them to utilize the broad powers with which they have been invested solely for the public good. No personal, partisan, or factional program is controlling here. The processes of the committee will not be used for any purpose save to develop economic facts which in the very nature of things must be widely comprehended before any constructive recommendations may be outlined.

The committee has approached its task with an open mind and with the intention to afford to interested persons the widest possible latitude for the presentation of evidence or suggestions.

The hearings begin today with a preparatory presentation to be made by Dr. Isador Lubin of the Bureau of Labor Statistics. He will be followed by Dr. Willard Thorp, who has been associated with the Department of Commerce, and by Mr. Leon Henderson, executive secretary of the committee. Next week the formal presentation of evidence will be begun by the Department of Justice.

When that presentation is undertaken, the committee will be acting under rules of procedure which were adopted at the last meeting of the

committee to apply to those portions of the hearing which are carried on under sec. 3 (b) of the resolution. It seems appropriate that these rules of procedure should also be filed at this point in the record.

(The rules referred to were marked "Exhibit No. 3" and are included in the appendix on p. 193.)

The CHAIRMAN. The prefatory statement which is about to be made by Dr. Lubin was undertaken because in the judgment of the committee it was desirable that there should be first an analysis of the facts of our economic system as they have appeared to the various Government bureaus.

As everybody connected with the Government and most of those connected with business understand, the Department of Commerce and the Department of Labor, as well as other departments in the Government have for many years been collecting official information with respect to our economic structure.

The question, which it is now to be undertaken to answer with the testimony first of Dr. Lubin and then of these other gentlemen, is: "What exactly has been the effect of our industrial and economic system upon the community life of the Nation?"

I now introduce Dr. Lubin as the first witness of this public hearing.

TESTIMONY OF DR. ISADOR LUBIN, COMMISSIONER OF LABOR STATISTICS, DEPARTMENT OF LABOR, WASHINGTON, D. C.

Dr. LUBIN. Mr. Chairman, members of the committee, any attempt to measure the performance of our economy must be in terms of its efficiency in meeting the requirements of our citizens. To maintain our standards as our population grows we must increase the output of the goods and services produced at least proportionately with the growth of our population.

I shall attempt to portray our population trend and to measure the amount of goods and services that have been available to our people over a period of years.

In presenting my evidence, Mr. Chairman, I shall use a series of charts prepared in the Department of Labor and based upon information collected by the Bureau of Labor Statistics as well as by the Department of Commerce, the Federal Reserve Board, and such authoritative private statistical agencies as the National Bureau of Economic Research.

The statistical data upon which these charts are based will be submitted in tabular form as an appendix to my testimony, numbered to correspond with the exhibit number given each chart.

I want to turn first to exhibit No. 4, which shows the trend of population growth in the United States.

(The chart referred to was marked "Exhibit No. 4" and appears on p. 4. The statistical data on which this chart is based are included in the appendix on p. 194.)

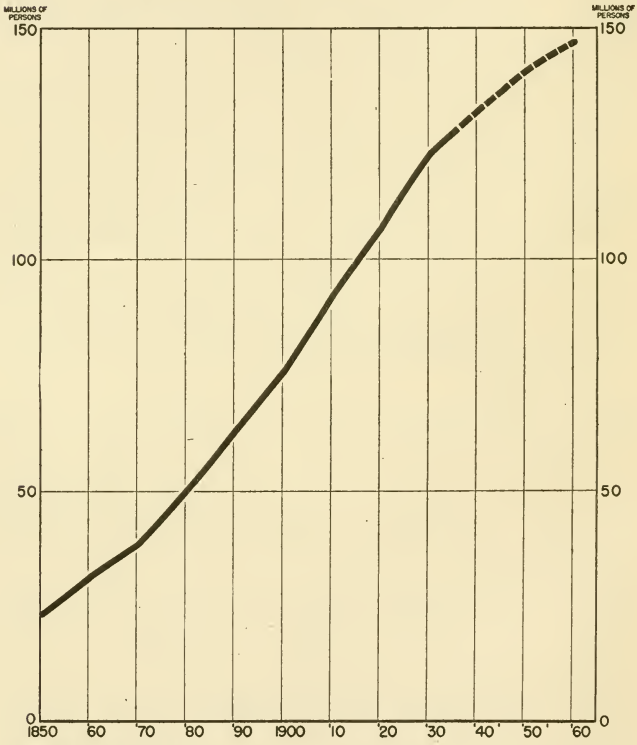
Dr. LUBIN. If you go back to 1850, the middle of the last century, you will note that the increase in population from that year to 1935, was from 23,000,000 people to 127,000,000. Such estimates as are available place the estimated population in 1940, 2 years hence, at approximately 132,000,000 people.

The significant fact that should be brought out is that between 1850 and 1880 our population doubled. Between 1880 and 1910, 30 years later, population increased by 80 percent.

Between 1910 and estimated 1940 a similar period of 30 years, it is estimated our population will have increased 43 percent and the esti-

EXHIBIT No. 4

UNITED STATES POPULATION

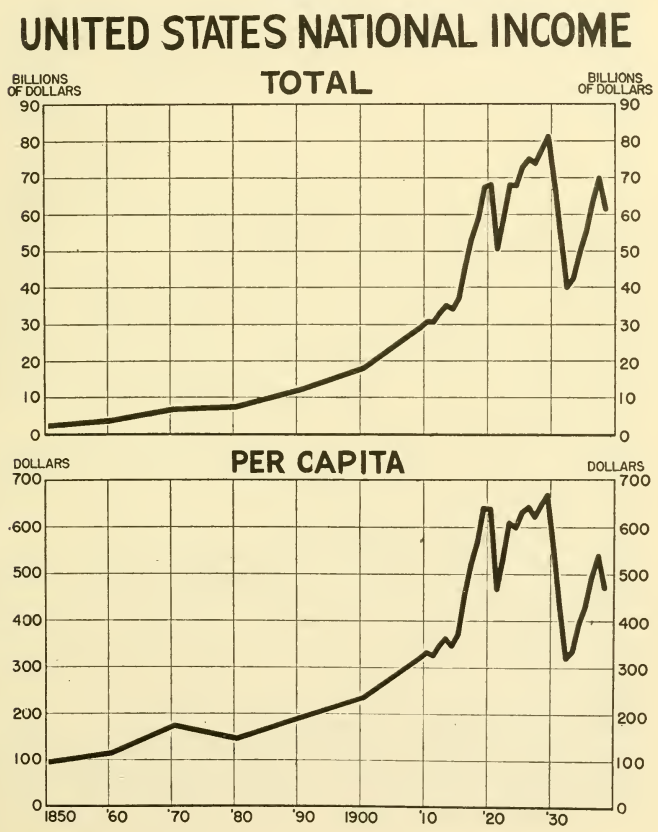


mated increase in population from 1940 to 1960 will be about 10 percent. In other words, the rate of increase of our population has been steadily going downward, so that in 1960 it is estimated that there will be but 10 percent more people in the United States than there will be in 1940.

Contrasting the growth of population with the goods and services that are available for our people, which is measured in terms of our national income, you will note from exhibit No. 5 that our national income increased from $2,000,000,000 in 1850 to $61,500,000,000, which is our estimate for the year 1938. But the significant thing to emphasize is that between 1910 and 1919 the average annual national income was $42,500,000,000. Between 1920 and 1929, it averaged $69,000,000,000 per year or an increase over the preceding 10 years of approximately 60 percent.

(The chart referred to was marked "Exhibit No. 5" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 194.)

EXHIBIT No. 5



The CHAIRMAN. Dr. Lubin, won't you, for the benefit of all who may hear or read what is testified here, give your definition of the national income? I find sometimes that that phrase is confused with the income of the Government.

Dr. LUBIN. The national income is the total amount of goods, namely, clothes, automobiles, food, houses, and things of that sort, the total sum of all the goods plus the total sum of all the services, which means laundry, garage, electric utility, and every other service sold—the sum total of all the goods and services produced in the United States in any one year, and this chart portrays in terms of dollars what has happened to the value of all those things during the period covered——

Senator KING (interposing). Including agriculture, of course.

Dr. LUBIN. All goods.

Senator KING. Agricultural commodities and production?

Dr. LUBIN. Anything that is produced.

The CHAIRMAN. That covers all mining production, all agricultural production, all industrial production, and all the activities of trade and commerce?

Dr. LUBIN. Yes. As I was saying, between 1920 and 1929 the average annual income was 60 percent greater than it was in the decade preceding.

Between 1930 and 1938 the national income averaged $56,000,000,000. In other words, there was a decrease in the income available, goods, and services produced available to the American people, from an average of $69,000,000,000 per year between 1920 and 1929 to $56,000,000,000 per year between 1930 and 1938.

For 1937 our national income was estimated by the Department of Commerce at $70,000,000,000. For this year the estimate is about $62,000,000,000, roughly, so that despite the fact that the national income is now relatively high as compared to the past, when you take into consideration the drop in national income during the early years of the decade you find a marked decline from $69,000,000,000 to $56,000,000,000

The CHAIRMAN. How reliable are those estimates?

Dr. LUBIN. They are the most reliable estimates that are available. They are made by the Department of Commerce and are accepted by economists, statisticians, and business people of the country as the most reliable figures that are available.

The CHAIRMAN. What is the basis of the various estimates?

Dr. LUBIN. What the Department does is to get such figures as are available, that is the amount paid out in wages, the amount paid out in salaries, the amount paid out in interest, the amount paid out in dividends, and other things of that sort, to estimate the total amount of income paid out. The income paid out is not always equal to the income produced, because some of it is saved by corporations and otherwise.

The CHAIRMAN. Over what period has the Department of Commerce been making these estimates?

Dr. LUBIN. I think they originally started in 1930 but they worked the figures back, and have been keeping them current since.

Senator KING. The Census Bureau has also made a contribution to the determination of the income.

Dr. LUBIN. Very definitely, through the Census of Manufactures and Census of Agriculture.

Senator KING. They make up a survey every 2 years now, formerly five, and before that 10.

Dr. LUBIN. The national income in dollars can, of course, be increased without more goods being produced. If the price level in 1 year is twice as high as in the preceding year, if prices go up 100 percent, the national income goes up 100 percent, but the physical goods available to the country have not been increased.

Representative SUMNERS. May I ask a question, please? Take the construction of a house, for instance: The people who sell the tree, that is income, is it?

Dr. LUBIN. That is part of the national income, yes; in other words, the value of the tree.

Representative SUMNERS. When the tree is manufactured into lumber and the lumber is sold, is the total value of the lumber figured in the income ?

Dr. LUBIN. It is the amount added to the value of the tree when it is in the form of lumber.

Representative SUMNERS. Do they subtract from the price of the lumber the value of the tree?

Dr. LUBIN. Yes.

Representative SUMNERS. There is no duplication?

Dr. LUBIN. No, there is no duplication.

Representative SUMNERS. When you build a house, the house is worth, say, $6,000, but that is not regarded as income in total?

Dr. LUBIN. No. In other words, that house appears in the picture in the sense that you have the trees plus the value added in turning them into lumber plus the value that was added when labor was put on it to build a house.

Senator KING. There are bound to be some duplications.

Dr. LUBIN. Due to the fact that we haven't refined our statistical methods to the extent we would like to, but the amount of duplication is relatively insignificant.

The question arises as to what the increase in national income has meant to our people in terms of the amount of goods that has been available to us. This lower chart shows the trend of national income in terms of the people of the country, namely, how much is available for each person.[1]

There you will note that between 1910 and 1919 the average was $428 per person. Between 1920 and 1929 the average was $607 per person. In other words, the income available for every man, woman, and child, were it equally distributed, increased 40 percent over a 10-year period, as opposed to an increase in the total national income of 60 percent. In other words, part of the increase, the difference between the two, was due to the fact that the population was increasing.

We have had to divide the national income among more people. The result was that your actual total income increased, as I said, by 60 percent, whereas the amount that was available for each person increased by 40 percent. The significant thing to note, however, is that we were increasing our output faster than we were increasing

[1] See exhibit No. 5, supra, p. 5.

our population. In other words, there were more and more goods available for our citizens despite the fact that the number of citizens was increasing.

The CHAIRMAN. Have any estimates of this character been made with respect to other nations?

Dr. LUBIN. There are very few, sir. I have some figures for the year 1934–35 that show the per capita for other countries.

Representative SUMNERS. Dr. Lubin, you just stated that the charts show there were more and more goods. Now does that mean necessarily more and more in volume and more and more in days' work: does the value of labor and the value of commodities enter in at all? Has that been broken down so you can really speak in quantity?

Dr. LUBIN. This, of course, is entirely in dollars value. My next chart will show you what it means in terms of actual physical goods.

Representative SUMNERS. While you are interrupted, would you mind indicating, if you have the figures, to what extent the volume of immigration and the policy of this Government with regard to immigration laws had to do with the increase of population? Do you have that?

Dr. LUBIN. We have figures showing the relative percent of increase in the population that is attributable to natural growth and the percentage attributed to immigration.

Representative SUMNERS. You have broken that down?

Dr. LUBIN. Yes. It has been estimated by Warren S. Thompson and P. K. Whelpton in their monograph prepared for the Committee on Recent Social Trends, Population Trends in the United States, page 303. The figures are for the white population only.[1]

Representative SUMNERS. Thank you very much.

Dr. LUBIN. Between 1930 and 1938, from there to there [indicating on chart],[2] that per capita income, the amount of goods and services available to our people as individuals, fell to an average of $442.

The CHAIRMAN. That was from 1930 to——

Dr. LUBIN (interposing). 1938.

The CHAIRMAN. 1938?

Dr. LUBIN. Yes. In 1932 the per capita national income of this country had fallen to $320, which you will notice is considerably less than it had been in the decade from 1910 to 1919 and the decade 1920 to 1929.

For 1938 it is estimated that that income per capita, the amount available in terms of goods and services for every man, woman, and child in the country will be about $472, which is about $68 less than was available last year and $150 more than was available in 1932.

[1] See the following table:

	White population growth	Percent of natural increase	Growth due to immigration		White population growth	Percent of natural increase	Growth due to immigration
1850–60	7,369,000	65.3	34.7	1890–1900	11,708,000	68.5	31.5
1860–70	7,415,000	72.0	28.0	1900–10	14,923,000	58.2	41.8
1870–80	9,066,000	71.5	28.5	1910–20	13,089,000	83.0	17.0
1880–90	11,581,000	57.1	42.9	1920–30	15,466,000	78.4	21.6

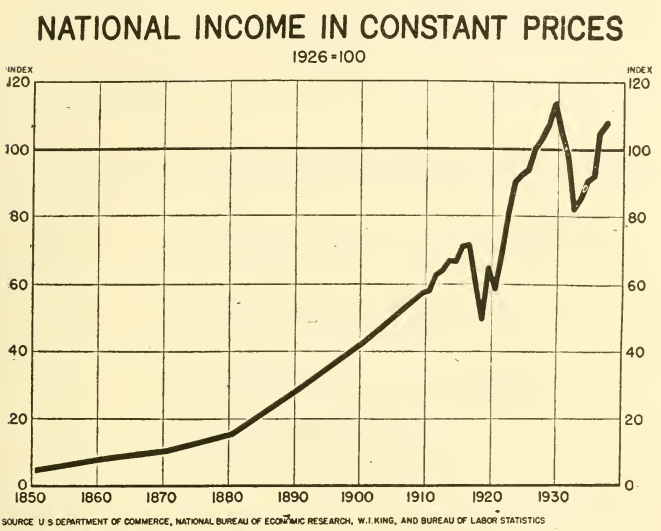
Exhibit No. 5, supra, p. 5.

Congressman Sumners, you raised the question about prices. What we have done here is try to eliminate the changes that were caused by price fluctuations. As I said, you might have exactly the same amount of goods available, but, if prices doubled, the value of the national income would also.

What we have done is converted these figures into 1926 dollars and thrown out all changes caused by price fluctuations.

(The chart referred to was marked "Exhibit No. 6" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 195.)

EXHIBIT No. 6



Dr. LUBIN. You will note that there was a sharp rise, but despite that fact the changes were not as great as appeared on the preceding chart. In other words, between 1910 and 1919 the increase in the national income in terms of physical goods—we are omitting values—was about 10 percent. Between 1920 and 1929 it was 93 percent. In other words we almost doubled the amount of goods and products produced. Between 1930 and 1937 there was an increase of only 2 percent.

Representative SUMNERS. Dr. Lubin, do you have anything to indicate the relative amount of carry-over from year to year? I suppose you wouldn't.

Dr. LUBIN. I think there are some figures. We have some inventory figures for certain industries.

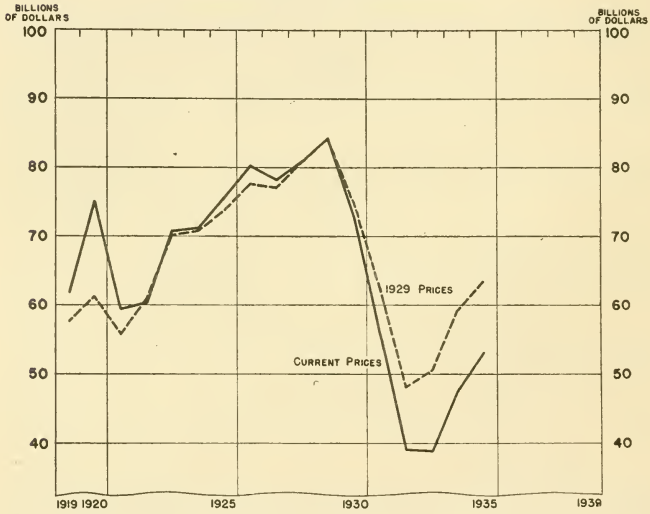
This chart gives you both curves. This solid one being the change in terms of the current price levels, the dotted one being in terms of actual physical units.

(The chart referred to was marked "Exhibit No. 7" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 195.)

EXHIBIT No. 7

NATIONAL INCOME

ADJUSTMENT FOR PRICE CHANGES



SOURCE: NATIONAL BUREAU OF ECONOMIC RESEARCH

Senator KING. Wouldn't it be wise to identify your charts, the first one No. 1, and so on?

Dr. LUBIN. I think this is "Exhibit No. 7". I will identify them; I have a list of them.

After portraying the tremendous drop that took place in our national income in contrast to the tremendous rise in the last decade, it is interesting to see what the situation is in the United Srates as compared with other countries. The most recent authoritative data for other countries are for 1934–35, and they are only available for four countries. You will note the average income in 1934 and 1935 in the United States was $432, as compared to $401 in England, $345 in Germany, $321 in Sweden, and $267 in France.

(The chart referred to was marked "Exhibit No. 8" and appears on p. 11. The statistical data on which this chart is based are included in the appendix on p. 195.)

Dr. LUBIN. In other words, despite the marked decline in the amount of goods and services available to our people over the past 9 years we are still in a far better position than many of these foreign countries.

Senator KING. Wouldn't you strike out the word "many" and say "all"?

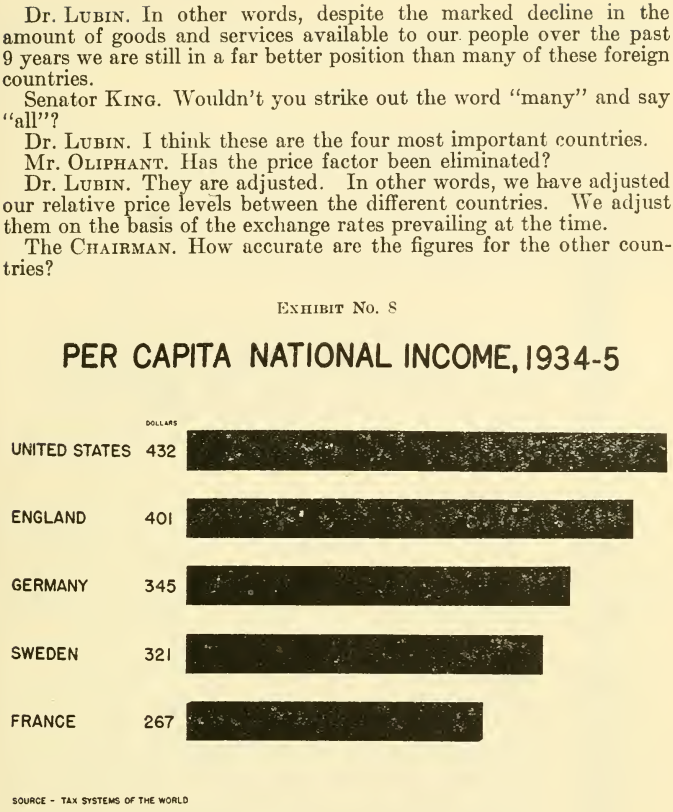
Dr. LUBIN. I think these are the four most important countries.

Mr. OLIPHANT. Has the price factor been eliminated?

Dr. LUBIN. They are adjusted. In other words, we have adjusted our relative price levels between the different countries. We adjust them on the basis of the exchange rates prevailing at the time.

The CHAIRMAN. How accurate are the figures for the other countries?

EXHIBIT No. 8



Dr. LUBIN. We don't know. All we can say, they are the most authoritative figures we can get, some based upon Government estimates, and some on estimates by private individuals.

Senator KING. The statistical organization under the League of Nations has made a survey of the wages and salaries and compensation in many countries so that that would be a rather reliable source.

Dr. LUBIN. They leave out so many other factors. You could get your wages; I doubt whether you could get dividends; I doubt whether you could get rents.

The CHAIRMAN. In other words, they are not computed on the same basis as our estimate of national income.

Dr. LUBIN. No; they are not.

Mr. HENDERSON. Isn't it true that the German per capita income there has got to be qualified a bit because it is computed in terms of the German official exchange rate?

Dr. LUBIN. Yes.

Mr. HENDERSON. It is higher there.

Dr. LUBIN. Yes.

Senator BORAH. It reduces itself down to the fact that these comparisons with other countries are not very instructive.

Dr. LUBIN. They are instructive in this sense, Senator: they show that as far as the United States is concerned, our national per capita income is still relatively higher. Allowing for most of the bugs that might get into it, no matter how you calculate it, we do come out in terms of a larger per capita income in the United States, despite the depression years, than other countries.

WASTED RESOURCES

Dr. LUBIN. Now, the question arises as to the effect of our changing national income upon the various groups in the community. I want to point first to the effect of the decline in national income upon the wage and salaried workers of the country.

(The chart referred to was marked "Exhibit No. 9" and appears on p. 13. The statistical data on which this chart is based are included in the appendix on p. 196.)

Dr. LUBIN. This chart shows the amount of employment that was lost in each year since 1929 on the assumption that the 1929 level of employment could have been maintained. The figures make no allowance for the fact that the population has increased. They are minimum estimates and assume that the total number of people available for work has been exactly the same as it was in 1929.

The extent of the underestimate is shown by the fact that the number of people, who are now of gainfully employable age, is approximately 6,000,000 greater than it was at that time.

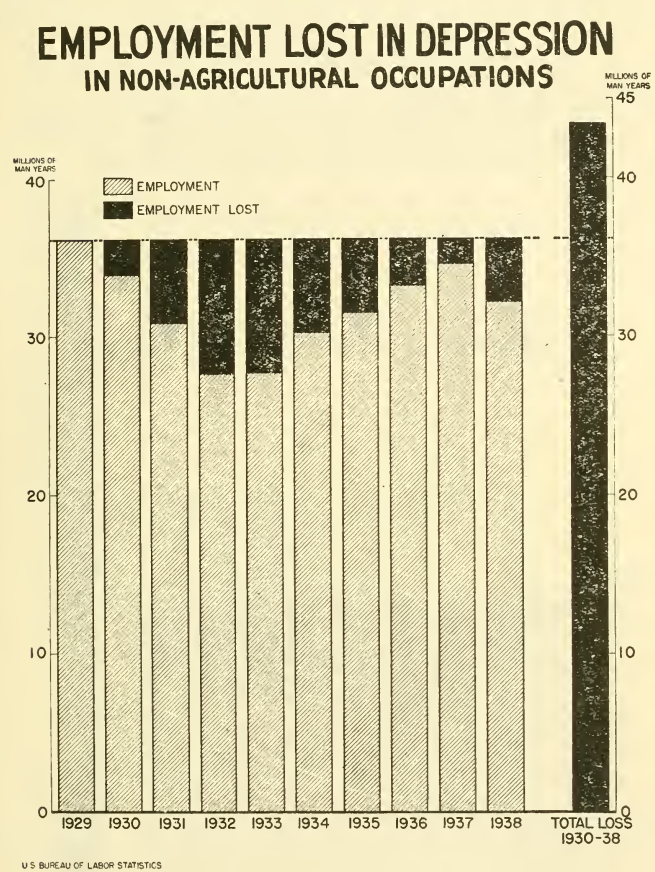
Assuming a working population of the size of 1929, you will note that if you add the employment lost in '30, '31, '32, up to 1938, the total number of man-years lost during that period of time was 43,435,000. Or, to put it in other words, if everybody who had worked in 1929 continued their employment during the past 9 years, all of us who were working could take a vacation for a year and 2 months and the loss in national income would be no greater than it has actually been.

There has been a large amount of discussion in the press regarding our armament program. If we had employed everybody who was working in 1929 constantly during the last 9 years, we could all stop our regular work and all the gainfully employed wage and salaried workers could go to work on armaments for a year and 2 months and the net effect on the national income would be just about the same as took place during the period from 1930 to 1938.

Representative SUMNERS. Dr. Lubin, was there a greater loss in the relative total of people who worked and the people who farmed, or any other group of that sort?

Dr. LUBIN. I am going to come to that right now, Judge Sumners. Now, what does this loss of employment mean in terms of wages and salaries?

EXHIBIT No. 9



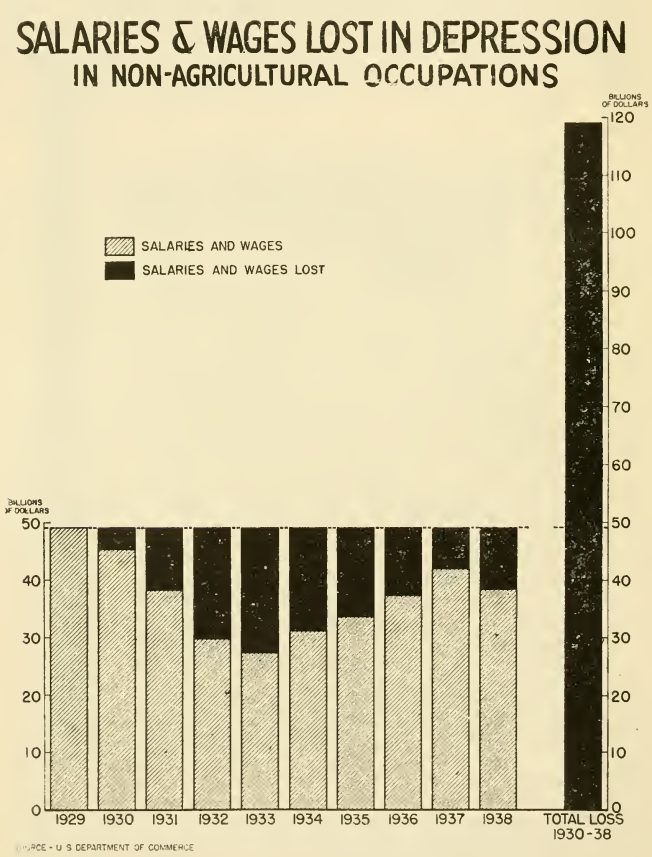
(The chart referred to was marked "Exhibit No. 10" and appears on p. 14. The statistical data on which this chart is based are included in the appendix on p. 196.)

Dr. LUBIN. That picture is portrayed here. Assuming that the total amount of salaries and wages paid out in 1929 had remained unchanged and these losses had not occurred, the total amount that would have been paid out in dollars to our wage and salaried workers would have been $119,000,000,000 more than it actually was——

The CHAIRMAN (interposing). How much?

Dr. LUBIN. $119,000,000,000. In other words, our loss during these years was 240 percent of the actual amount that was paid out in salaries and wages in 1929. That loss was 50 percent greater than the total national income paid to farmers and merchants and business men and labor and everybody else in 1929.

EXHIBIT No. 10



The CHAIRMAN. Let me ask it this way: What was the total national income in 1929?

Dr. LUBIN. Approximately $81,000,000,000.

The CHAIRMAN. And what is this total of the lost income?

Dr. LUBIN. One hundred and nineteen billion for wage and salaried workers alone.

The CHAIRMAN. So it is one hundred and nineteen billion compared with eighty billion, you say?

Dr. LUBIN. Eighty-one billion for everybody.

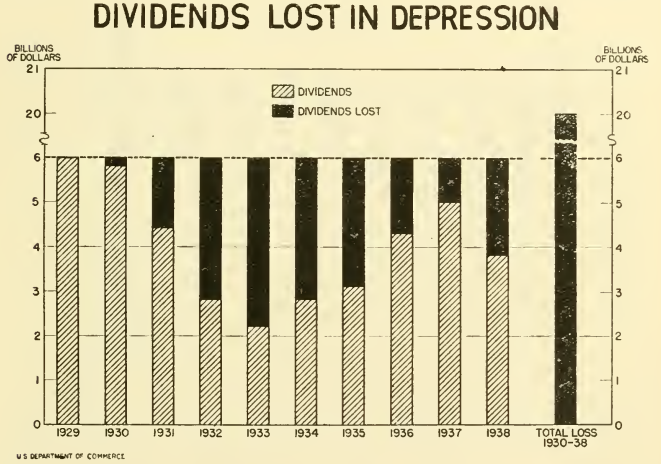
The CHAIRMAN. Eighty-one billion, the largest single year in the history of the country.

Dr. LUBIN. Exactly; and this is the loss only to wage earners and salaried workers.

Now, in terms of losses to investors, assuming again you could have maintained your 1929 level of dividends paid out, the cumulative loss is $20,100,000,000, which is three times the amount that was actually paid out in 1929, the peak year of dividend disbursements.

(The chart referred to was marked "Exhibit No. 11" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 196.)

EXHIBIT No. 11



Dr. LUBIN. If we turn to the farmers, the total loss in the gross income that went to them, as compared to what they got in 1929, was thirty-eight billion four hundred millions, which is three times the amount that all the farmers got for everything they sold in the year 1929. In other words, the net loss over this period of years is equal to three times the amount they actually got in 1929.

(The chart referred to was marked "Exhibit No. 12" and appears on p. 16. The statistical data on which this chart is based are included in the appendix on p. 197.)

Representative SUMNERS. It doesn't look as though anybody is doing very well.

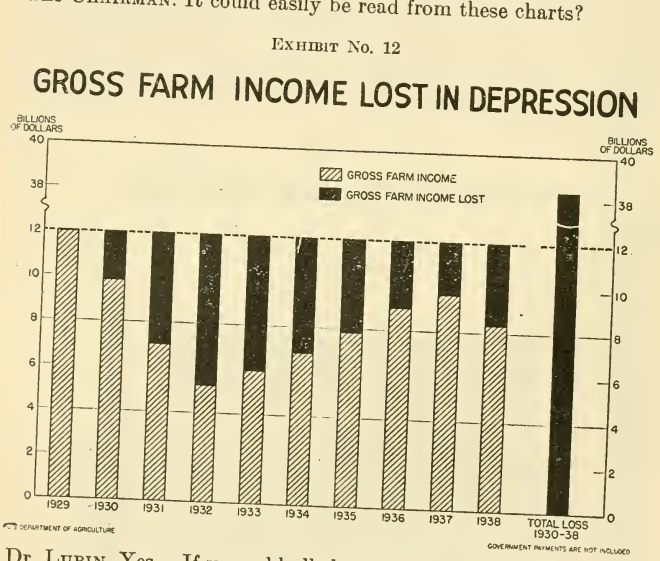
Dr. LUBIN. The fact is that when we talk about national income, it doesn't really mean much unless we are talking about the groups affected, and these are the three most important groups, the investors, laborers, and farmers. What I am attempting to do is to show the relative loss to each of these three groups.

The CHAIRMAN. Have you made a chart comparing the loss of each group with the other, as, for example, the loss incurred by investors as compared with the loss incurred by wage earners, as compared with the loss incurred by farmers?

Dr. LUBIN. We haven't such a chart, but I could easily add them together. We have them all.

The CHAIRMAN. It could easily be read from these charts?

EXHIBIT No. 12



Dr. LUBIN. Yes. If you add all those together, the losses to labor, the losses to agriculture, the losses to investors, assuming all the time that we could have maintained the level of 1929, it amounts to $133,000,000,000 as compared with a national income in 1929 of $81,000,000,000. Incidentally in this chart I have eliminated the effect of price changes; in other words, I am dealing now in terms of physical units of goods, eliminating such changes in the national income as arose from price changes.

(The chart referred to was marked "Exhibit No. 13" and appears on p. 17. The statistical data on which this chart is based are included in the appendix on p. 197.)

Senator BORAH. Dr. Lubin, have you the farm income or agricultural income for 1928?

Dr. LUBIN. Yes, right here, sir.

Senator BORAH. And then in 1929? The farmers were pretty nearly as bad off in 1928 as they were in 1930.

Senator KING. That last answer you made I didn't quite understand. Did you take into account in determining these prices the fact that we had changed our dollar?

Dr. LUBIN. I did here, yes, definitely. This is a stable dollar, the 1929 dollar, in terms of the purchasing power of the 1929 dollar.

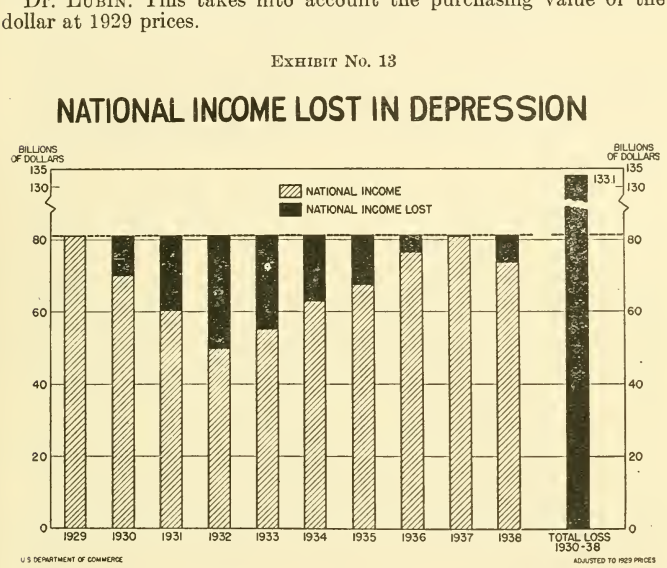
The CHAIRMAN. Now you are referring to the chart entitled "National Income Lost in Depression"?

Dr. LUBIN. Yes.

Senator KING. Taking into account that the gold dollar had a certain quantity? It has been inflated so that $35 is paid for an ounce of gold.

Dr. LUBIN. This takes into account the purchasing value of the dollar at 1929 prices.

EXHIBIT No. 13



Representative SUMNERS. Dr. Lubin, in using the figures for 1929 as a base, were those prices and incomes and figures for 1929 above normal, considering the general situation?

Dr. LUBIN. Well, of course I wouldn't want to discuss the concept of normal; they were higher relatively than they had been.

Representative SUMNERS. Would you permit a clarifying statement? If as a matter of fact in 1929 prices were stimulated beyond where they ought to be, would it be a structural base upon which to calculate these other changes?

Dr. LUBIN. It doesn't make much difference, Congressman, which year you pick as long as you keep the level constant. In other words, we could have taken 1926 and the result would be the same, or 1923 or 1921. The idea is to convert them all into the price level of a single year.

Senator KING. Your figures are not based upon the quantity of production, but upon prices.

Dr. LUBIN. This is throwing out all price changes; this is a quantitative and not a value measure.

Senator Borah, in reply to your question, the gross farm income of 1928 was $11,741,000,000; in 1929 it was $11,941,000,000; in 1930 it was $9,800,000,000, so that in 1928 and 1929 they were about on a par. In 1930 the first drop came.

Senator BORAH. The point is, if you permit me, that in 1928 and 1929 the income of agriculture was not sufficient for agriculture to maintain itself.

Dr. LUBIN. Exactly so. In other words, you have what some consider to be a double loss. You have a loss that existed in 1928 and 1929 in the sense, as you say, that there wasn't sufficient income to maintain the whole agricultural population, plus a further loss that took place because of the loss in gross income that arose in later years.

Senator KING. I suppose you haven't attempted to determine—it probably would be beyond the scope of your activities—the contributing factor to the decline in agriculture resulting from diminution in our foreign market.

Dr. LUBIN. That question, Senator, will probably be discussed later on in the hearings. I am not attempting to explain why these changes occurred. All I am trying to do is to show what actually did happen.

Senator KING. Speaking objectively.

Dr. LUBIN. Getting back to this chart,[1] as I said, the total national income in 1929 was $81,000,000,000. The loss in national income accumulated over this period of years was $133,000,000,000, which means you have an accumulated loss which was about 164 percent of the 1929 income. However, I want to point one thing out. In 1937 we almost got back to the 1929 level, in terms of physical goods and services.

Senator KING. Is that volume of production or prices?

Dr. LUBIN. This is volume, taking the prices out. If you convert this loss into the amount of goods available to the people of this country, it is equal to a thousand dollars over the last 9 years for every man, woman, and child in the country. In other words, if this amount of income in terms of physical goods had not been lost there would have been available, as a present to every man, woman, and child, if we wanted to give it to them a thousand dollars more than was actually available.

Representative SUMNERS. Would it interrupt you to ask this question, whether or not you have a chart or study that would indicate the relationship between the breaking down of the purchasing power of one group and the general effect upon the whole group for the total?

Dr. LUBIN. We do have the relationship between the amount paid out to workers in factories and gross farm income. I haven't brought it with me but there is a chart that has been put out by the Department of Agriculture which shows a very close correlation. The lag is in agriculture; in other words, as pay rolls go down, a decline in agricultural income starts. As pay rolls go up, agricultural income starts going up. The reason is simple. Our primary market for agricultural products is the United States, and since the largest single group in

[1] Exhibit No. 13, supra, p. 17.

the United States are wage and salary workers, and since they buy more farm products as their incomes go up because of more work and more income, the farm situation improves.

Representative SUMNERS. Isn't the farmer's economic condition, though, determined perhaps as much by price as by quantity?

Dr. LUBIN. It is, and of course the prices of some of his products are determined in the world markets. On the other hand, prices of other types of commodities, vegetables, milk, and dairy products, and other commodities of that sort are very little affected by world conditions.

Representative SUMNERS. But the vicinity which produces for agricultural export, may swing to dairy and truck farming and that sort of thing. I don't want to get into any argument about it, but it makes it practically standard. I don't want to lead you too much into that.

Dr. LUBIN. The important thing is that in terms of dollars that are available to farmers they do move up and down with the number of dollars available to wage earners, which gives you some idea of the part the domestic market plays in our economy.

Senator KING. I don't want to interrupt, but isn't it a fact, however, going back for many, many years prior to the discovery of gold, for instance, in California, when there was a great output of gold and precious metals, that prices had gone up and down and there had been radical and material changes in not only the volume of production but in the price of the commodities? So there is no static situation where the wages are the same and the volume of production the same.

Dr. LUBIN. No; there isn't. You can, however, throw out those fluctuations in prices and convert your national income, as we have on this chart, into terms of physical units. That is what I have done.

Senator KING. Isn't it a fact that the monetary situation, the monetary status, hasn't much to do with prices?

Dr. LUBIN. I am not going to speak as an authority on prices.

Senator KING. It is obvious if you have inflation your prices will go up.

Dr. LUBIN. Yes; that is what inflation is.

Mr. OLIPHANT. I should like to get a little further information on the basis of comparison. You mentioned the fact that you could have eliminated the price factor by choosing any other year. Isn't it true from the standpoint of those primary industries with the largest volume, 1929 is very significant because in that year we came nearest to capacity?

Dr. LUBIN. It was the peak year in terms of using our resources, both human and physical.

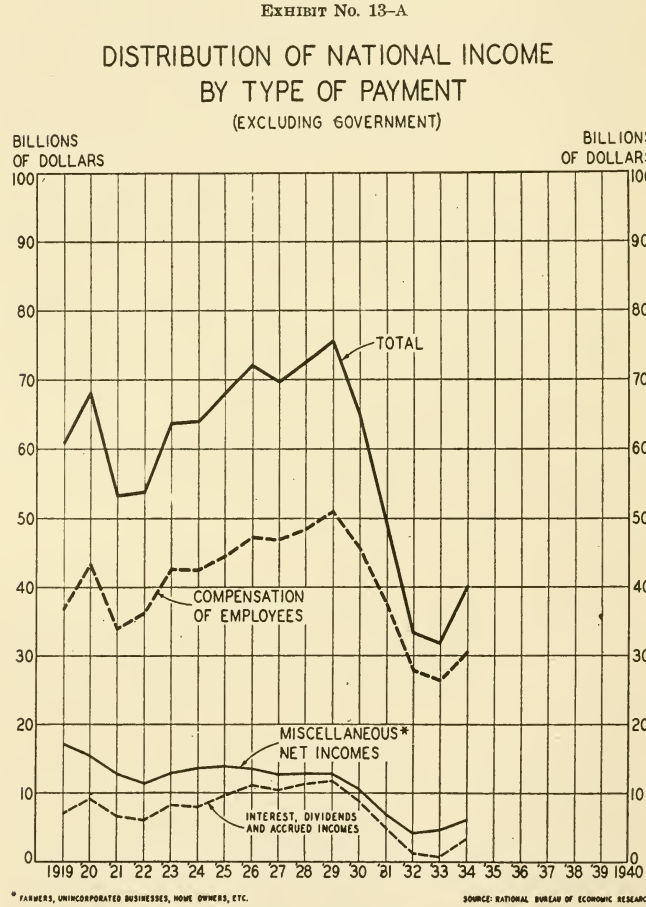
Representative SUMNERS. One point I wish you would put in the record, or have somebody put in the record, I believe—it is my opinion—that historically it is a fact that the prices of agricultural commodities broke first, and when those prices broke, they broke so low that they paralyzed the buying power of the farmers, they just couldn't buy. It was a paralysis of the economic circulatory system, beginning with the paralysis of the buying power of the farmer. It seems to me you might at some point, if you will be good enough, put something in of that nature.

Dr. LUBIN. As a matter of fact, we have available, have prepared for the committee, a whole series of charts and tables dealing with

what has happened to prices during the last hundred years, and particularly in the period from 1920 to date, and I understand that at a later date, Judge, we shall discuss the whole course of prices.

Representative SUMNERS. I hope you will pardon me for anticipating that discussion.

EXHIBIT No. 13–A



Dr. LUBIN. Now the question was raised by Senator O'Mahoney as to what proportion of our income goes to the different groups.

(The chart referred to was marked "Exhibit No. 13–A" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 197.)

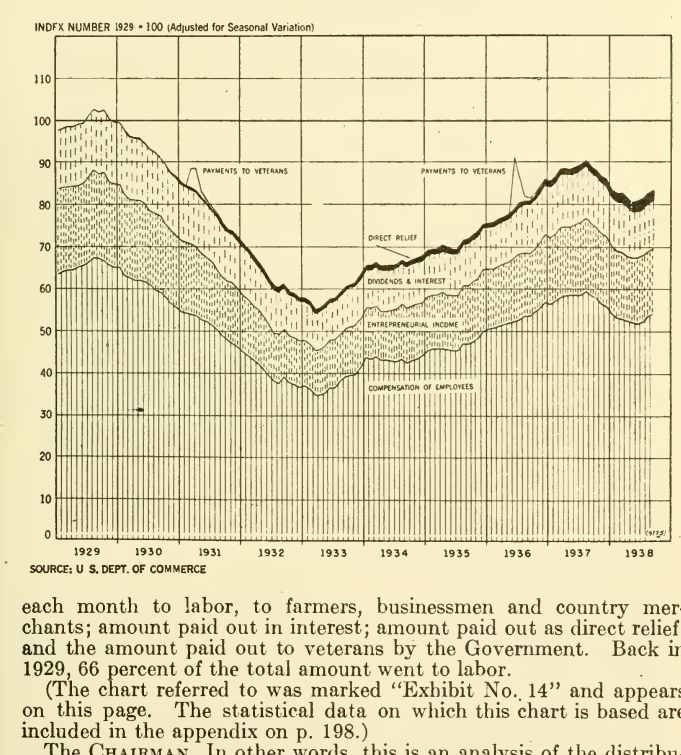
Dr. LUBIN. You will notice there has been a very marked shift over a period of years in the total portion of the national income that is going to different groups.

The CHAIRMAN. May I interrupt you just to make a suggestion, that when you refer to a new chart, it would be well to identify the chart so that it will appear in the record what particular chart you are referring to.

Senator KING. That is the reason I asked that they be numbered.

Dr. LUBIN. This chart shows the monthly income payments from 1929 to date: In other words, indexes of the actual amount paid out

EXHIBIT No. 14



each month to labor, to farmers, businessmen and country merchants; amount paid out in interest; amount paid out as direct relief; and the amount paid out to veterans by the Government. Back in 1929, 66 percent of the total amount went to labor.

(The chart referred to was marked "Exhibit No. 14" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 198.)

The CHAIRMAN. In other words, this is an analysis of the distribution of income payments during the years from 1929 to 1938 among the various groups?

Dr. LUBIN. Yes. In 1937 it is estimated to be 67 percent for labor. The next group, the entrepreneurial group, includes, as I have said, businessmen, farmers, and so forth. This group got 12 billion in 1929, including agriculture. In 1937 they got about 10.4 billion. The people who received dividends and interest received about 11.3 billion in 1929, and last year they got about 9.6 billion. The balance, you will note, is relief and payments to veterans. The significant thing is that the amount going to labor decreased from 51.5 to 46.7 billions; businessmen and farmers, from 12 to 10.4; dividends and interest, 11.3 to 9.6, which is less than a sixth of the total; and the amount paid out in direct relief, of course, growing larger over the later years, although you note there was an item of relief—private and otherwise—in the earlier years.

Senator KING. I didn't quite understand your statement as to the percentage received in wages and salaries for 1935. Did you give that?

Dr. LUBIN. No; it was 66.5 percent. In 1929 labor got 51.5 billion dollars; in 1938, October, the rate was about 44 billion a year.

Senator KING. In percentage, would not wages and salaries reach 74 percent of the total income?

Dr. LUBIN. In 1937 it was 67.4 percent and that is the highest year, according to our figures.

Senator KING. The figures which I have here were 70 percent, 70.2.

Dr. LUBIN. Senator, the latest figures on the percentage distribution of income payments, compiled and published by the United States Department of Commerce, are as follows:

	1929	1930	1931	1932	1933	1934	1935	1936	1937
National income paid out (in dollars)	78,556	73,200	62,032	40,024	45,317	51,510	55,137	62,586	69,330
Percent distribution of this total [1]									
1. Total compensation of employees	65.6	64.9	64.7	64.4	65.3	66.1	66.5	66.9	67.4
(*a*) Total salaries and wages	64.4	63.5	63.0	62.2	61.7	61.5	62.1	60.8	61.8
(*b*) Work-relief wages [2]					1.5	2.9	2.6	3.9	2.7
(*c*) Social Security contributions of employers								.5	1.3
(*d*) Other labor income	1.2	1.4	1.7	2.2	2.1	1.7	1.8	1.7	1.6
2. Total dividends and interest [3]	14.4	15.5	16.0	16.3	15.7	15.0	14.2	14.2	13.8
(*a*) Dividends	7.6	7.9	7.0	5.6	4.9	5.4	5.5	6.8	7.2
(*b*) Interest	6.6	7.4	8.5	10.2	10.4	9.4	8.6	7.4	6.7
3. Entrepreneurial withdrawals	15.6	15.8	15.9	16.1	15.9	15.6	15.8	15.3	15.1
4. Net rents and royalties	4.4	3.8	3.4	3.2	3.1	3.3	3.5	3.6	3.7

[1] Net savings of business concerns, sometimes positive and sometimes negative, are not included in this total. They affect primarily the value of the equity of stockholders and entrepreneurs.

[2] Includes pay roll and maintenance of Civilian Conservation Corps enrollees and pay rolls of Civil Works Administration, Federal Emergency Relief Administration, and the Federal Works Program projects, plus administrative pay rolls outside of Washington, D. C., for all except the Federal Works program. Area office employees and pay rolls under the Federal Works Program are included with the regular Government employment and pay-roll figures.

[3] Includes also net balance of international flow of property incomes.

Senator KING. I wonder if, in determining the percentages, you used the figures of Dr. King, Kaznuts, and others. I have them here.

Dr. LUBIN. Our figures come from the United States Department of Commerce.

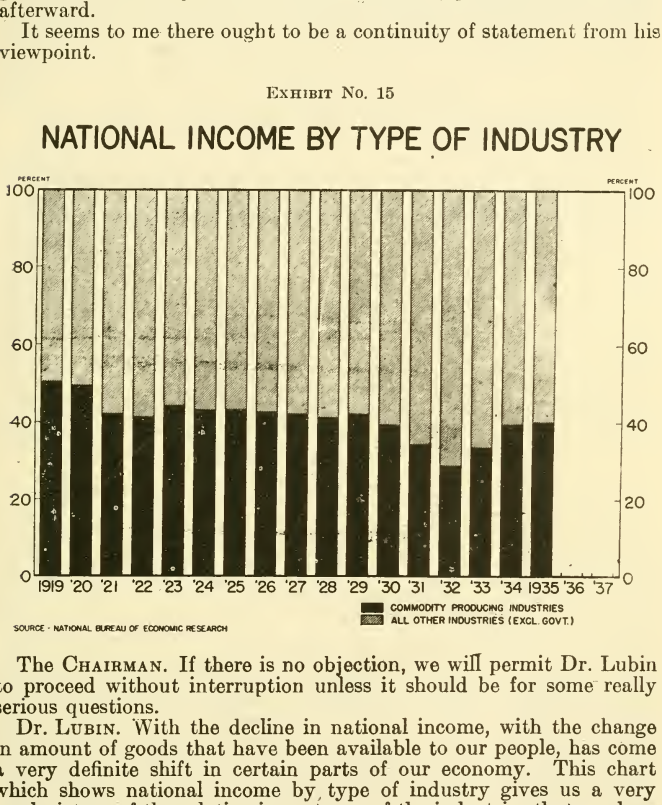
The CHAIRMAN. Dr. Lubin, may I ask whether you would prefer to go through without interruption in the development of your statements and then submit to questioning later?

Dr. LUBIN. Frankly, it makes no difference. If there is anything that ought to be clarified at a given moment, I would prefer to do so. It makes no difference to me.

Senator BORAH. I suspect it would be better clarified if you would go ahead and make your statement. Of course, questions can be asked afterward.

It seems to me there ought to be a continuity of statement from his viewpoint.

EXHIBIT No. 15



The CHAIRMAN. If there is no objection, we will permit Dr. Lubin to proceed without interruption unless it should be for some really serious questions.

Dr. LUBIN. With the decline in national income, with the change in amount of goods that have been available to our people, has come a very definite shift in certain parts of our economy. This chart which shows national income by type of industry gives us a very good picture of the relative importance of the industries that produce goods and services.

(The chart referred to was marked "Exhibit No. 15" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 200.)

Dr. LUBIN. You will notice that in 1919 about half of the value of things produced in the United States were produced by factories, farms, and other organizations that produced physical goods. About half of the value was contributed by the so-called service industries of the country, the retail distributor, wholesale distributor, and things of that sort.

By 1929, this part contributed by the producers of physical goods had fallen to 42 percent, and the noncommodity-producing groups had increased their proportion of the output to 58 percent. By 1932, the value contributed to our national economy by the commodity-producing industries had fallen to 29 percent of the total; whereas, the value of the things produced in the so-called service industries constituted over 70 percent of the total. In other words, the latter have become proportionately greater contributors to the national income of the country.

One thing should be borne in mind. When you have a depression, factories curtail their output faster than other businesses. People still use electricity; they still use gas, and the result is you get a situation where proportionately these industries become much more important.

On the other hand, there is also a price factor there that must be borne in mind. Public-utility rates don't go down as quickly as other prices. A lot of other service prices do not go down as quickly as commodity prices, and the result is that the total value of the products of the noncommodity-producing industries becomes greater relatively to the total.

Now I would like to compare on this chart the production of our industries, on a total and a per-capita basis.

(The chart referred to was marked "Exhibit No. 16" and appears on p. 25. The statistical data on which this chart is based are included in the appendix on p. 200.)

PRODUCTION OF COMMODITIES IN PROSPERITY AND DEPRESSION

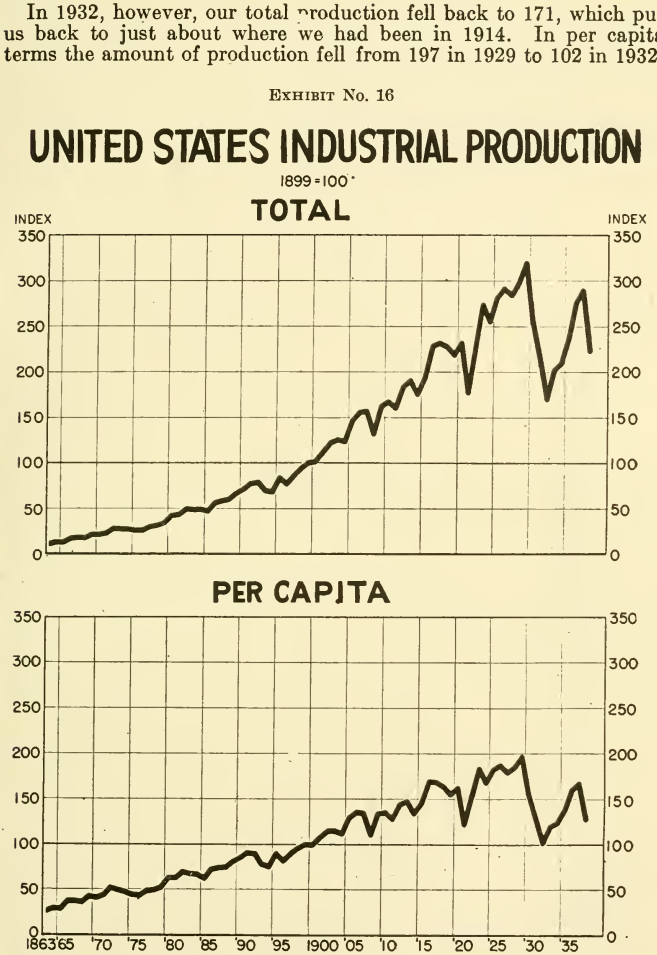
Dr. LUBIN. Our industries, mining, manufacturing, and so forth—this is industrial production only and omits agriculture—our industries produced a relatively small proportion of the total income in 1936 as compared to the year 1899; yet there was a very marked increase in the growth of manufacturing and mining in that interval of time. As a matter of fact, the increase in the total goods produced by our industries was from about 100 in 1899 to 167 in 1910, whereas the per capita output of our industries increased from 100 to 135. In other words, the output of our factories and mines was growing at a rate much faster than our population, with the result that in 1910 every consumer in this country was using about 35 percent more goods than in 1899. In other words, the amount of goods available to the individuals of this country was 35 percent greater, at least in terms of products of mines and factories, than it had been in 1899. The answer of course is that industry was growing at a much more rapid rate than population with the result that you had gotten to the point where each person had more goods.

In 1929 our manufacturing industries were producing approximately three times as much as they had been in 1899, and despite the increase in our population, the per capita production also increased. The result was that twice as much goods were being produced for each

person in the year 1929 as had been produced for each consumer in 1899.

In 1932, however, our total production fell back to 171, which put us back to just about where we had been in 1914. In per capita terms the amount of production fell from 197 in 1929 to 102 in 1932,

EXHIBIT No. 16



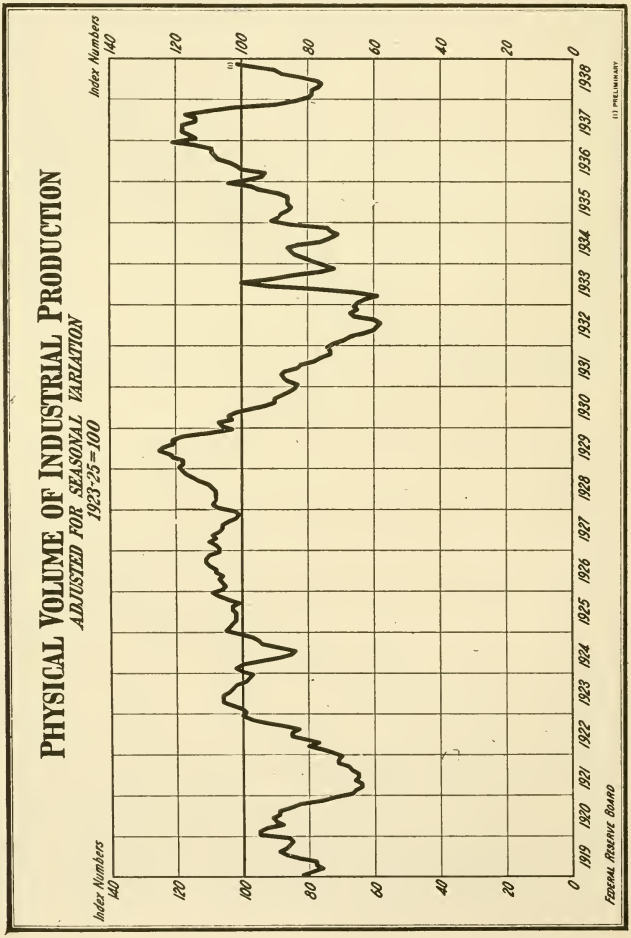
so that in terms of the products of our factories and our mines, the average citizen in this country had about as much available as he did in 1899. In other words, we were set back exactly 33 years in terms of the production of our mines and factories and the goods produced that were available to each of our people. We reached 167 last

year—and at the present time we are down to about 128, which puts us back at the level of about 1905 on a per capita basis.

In this chart on the physical volume of industrial production I have attempted to repeat the preceding chart, but in more simple form in order that you may see more clearly the tremendous declines that have taken place during the last 20 years.

(The chart referred to was marked "Exhibit No. 17" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 201.)

EXHIBIT No. 17



Dr. LUBIN. If you start with 1919, you will notice that our physical production rose in 1920, followed by the depression of 1921. It rose again in 1922 and by 1929 we were producing 25 percent more goods than in 1922 and 1923. However, this 25 percent more output soon thereafter declined to 42 percent below where it had been in the 1923–25 period. By December 1936 however, we had regained virtually all of the loss since 1929 and we were within 3 percent of the peak of 1929. Then followed another decline in physical production during which the actual amount produced fell to approximately the level of 1922 and for 1938 we estimate that the level will run about 86.

As a matter of fact, it is estimated that last month we produced 101 percent of what we did during the 3-year base period, 1923–25.

Senator KING. Physical production?

Dr. LUBIN. Physical production.

Now, the question to be answered is: Just where in our economy did these declines occur?

(The chart referred to was marked "Exhibit No. 18" and appears on p. 28. The statistical data on which this chart is based are included in the appendix on p. 201.)

Dr. LUBIN. I have attempted to break down the output of our factories and our mines in terms of the relative importance to the American economy of so-called durable goods and so-called nondurable goods.

Durable goods, as we define them are any goods that are consumed over a period of years or period of time; in other words, automobiles, refrigerators, locomotives, machinery, buildings and things of that sort. Houses, of course, are the most important of these goods. Some are used directly by consumers, some are used in producing other goods.

I think it is rather important that we note the relative increasing importance of the so-called durable goods in the American economy. You will note that between 1879 and 1929, the importance of durable goods industries which contributed 31 percent of our industrial output in '79, had risen to the point where they were almost half of our output, 44 percent. By 1933, however, their part in the economy had fallen markedly.

I might say for the record, Mr. Chairman, that this is not a chart based on Government figures. It was prepared by the National Bureau of Economic Research in New York, and made available to us by its director, Dr. Wesley C. Mitchell. I feel they should get credit for the chart.

Here is a chart showing total manufacturing output.

(The chart referred to was marked "Exhibit No. 19" and appears on p. 29. The statistical data on which this chart is based are included in the appendix on p. 202.)

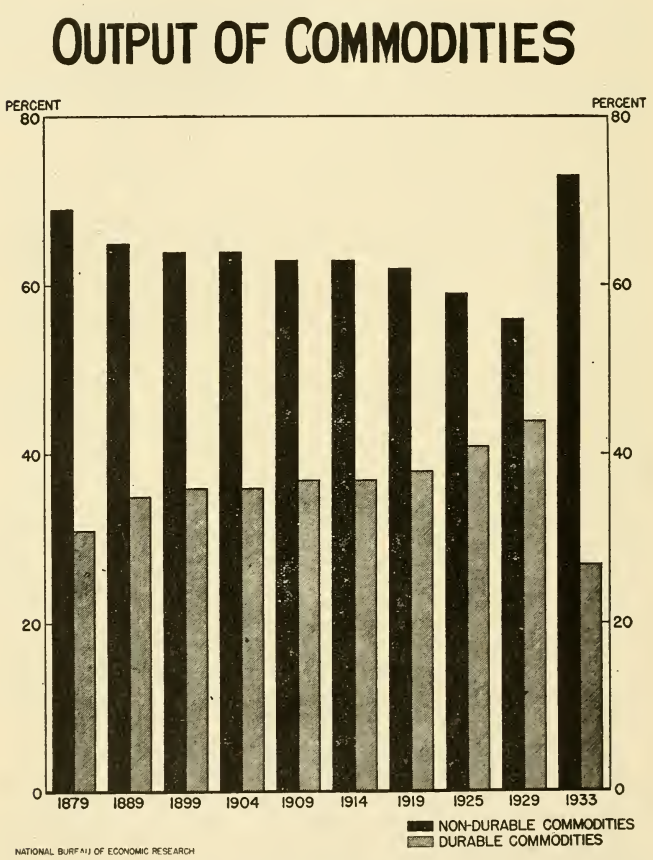
Dr. LUBIN. You will note that nondurable-goods production varied very little throughout this whole period of time. However, every break in this index (total manufacturing) was primarily caused by a break in the durable goods industries.

Compare this break (durable) to that (nondurable), and you can see the importance the break in durable had in this total drop from 1929–32.

Similarly during the rise of the past few years you will note that nondurables remained virtually static while durables went up. They accounted for the major part of the total rise. Apparently the modern

depression is a durable-goods depression; that is, housing and refrigerators and automobiles are among the first things that people apparently stop buying, plus the fact that industries stop investing in new equipment and plant.

EXHIBIT No. 18



If we compare the line of the output of our factories and mines with the line which shows the output of agriculture, we see that farmers don't stop producing when other people stop producing.

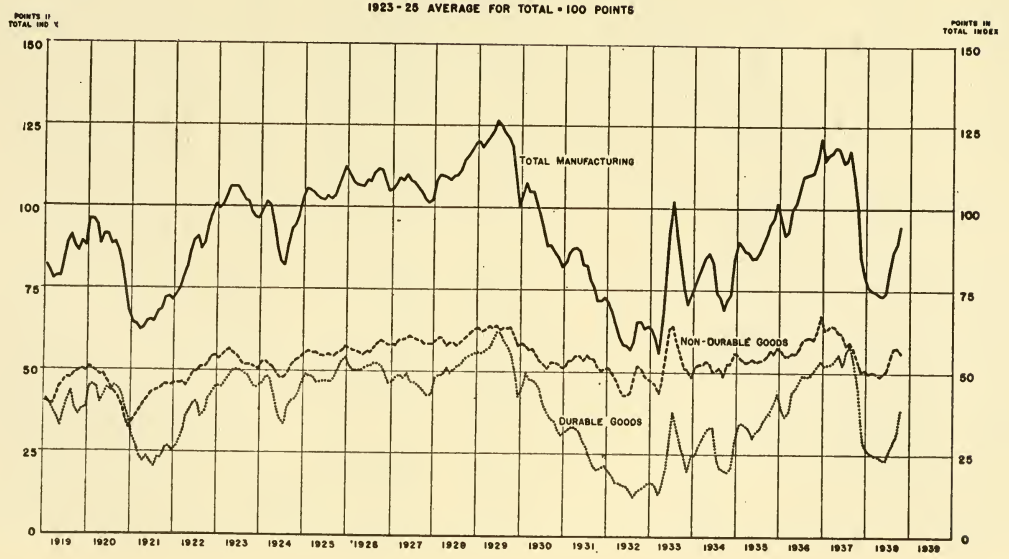
(The chart referred to was marked "Exhibit No. 20" and appears on p. 30. The statistical data on which this chart is based are included in the appendix on p. 204.)

EXHIBIT No. 19

FEDERAL RESERVE INDEX OF MANUFACTURING PRODUCTION

ADJUSTED FOR SEASONAL VARIATION

1923-25 AVERAGE FOR TOTAL = 100 POINTS



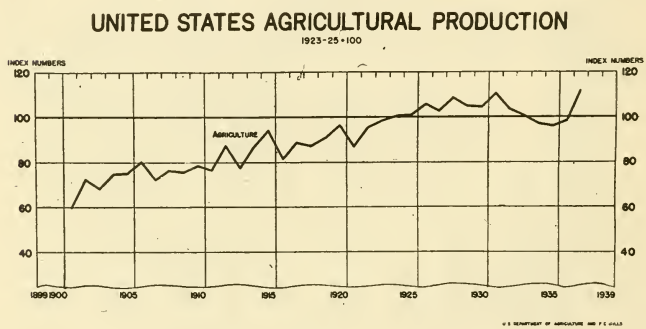
Dr. LUBIN. As a matter of fact there has been a steady increase in the total agricultural production, with relatively small declines here and there, seldom amounting to more than 10 percent. There was a drop during the period 1934, '35, '36, but soon another increase occurred. The total output in 1937 was higher than in any previous year.

Senator KING. This is still volume?

Dr. LUBIN. Yes.

Representative REECE. Is it your intention to explain what causes the demand for goods? For instance, the cause that gives demand for agricultural goods you mentioned, and those that give demand for other commodities.

EXHIBIT No. 20



Dr. LUBIN. I do not intend to explain it today but I think sometime in the course of the hearings that question will be brought into the picture. All I am attempting to do is to show how the economy has failed to produce the goods that we ought to have to maintain our standard of living, and I have attempted to point out the weak spots in the system in terms of factory production, agriculture, and so forth.

Representative REECE. It seems important that agriculture has produced too much and industry has produced too little. In other words, whether the legitimate demand for goods has been over supplied or under supplied.

Dr. LUBIN. I don't know whether one could answer that specifically. The reason agriculture may appear to have produced too much is because other folks are producing too little, or vice versa. I don't know that one can say that at any time too much is produced because there is always a possibility of increasing the standard of living. Of course, there may be a maximum limit to certain types of goods that people will consume, but I don't think we, in the United States, have ever reached that stage, even in cotton, wheat, or any other products; that is on the basis of what we could consume if we were going to maintain what we think of as an American standard of living.

Mr. OLIPHANT. I have a question on this, a further word of explanation on the significance of the chart headed "Federal Reserve Index of Manufacturing Production." [1] Are there particular nondurable goods, the volume of which follow the pattern of the lower one and also particular durable goods which follow the pattern of the other line?

Dr. LUBIN. I am going to break that down in a few minutes into individual commodities so you can see what their course has been.

Mr. OLIPHANT. That is, the difference there is a rough and ready difference.

Dr. LUBIN. Yes.

Senator KING. If I may be pardoned, having referred to agricultural production, did you discover in your investigation the fact that the exports of agricultural commodities such as cotton, wheat, corn, beef and lard, and so on, had been reduced during the past 8 or 10 years?

Dr. LUBIN. Very definitely. The Secretary says that Dr. Thorp is going to deal with the export and import problem.

The CHAIRMAN. Have you made a chart showing the per capita production of agricultural commodities?

Dr. LUBIN. We have the figures. I haven't a chart of them. I could put them in the record.

The CHAIRMAN. Don't you think that would be an interesting thing to show in the record?

Dr. LUBIN. Yes; they will be shown in the appendix with figures for "Exhibit No. 20". [2]

Mr. Oliphant raised the question as to various types of industries and whether their pattern follows the pattern of the manufacturing industries as a whole. Here is the pattern of building construction for the last 20 years; you will note that the peak was in '25, while the peak in manufacturing was in '29.

(The chart referred to was marked "Exhibit No. 21" and appears on p. 32. The statistical data on which this chart is based are included in the appendix on p. 205.

[1] Exhibit No. 19, supra, p. 29.
[2] Infra, p. 204.

EXHIBIT No. 21

VALUE OF ALL CONSTRUCTION

SOURCE: NATIONAL BUREAU OF ECONOMIC RESEARCH

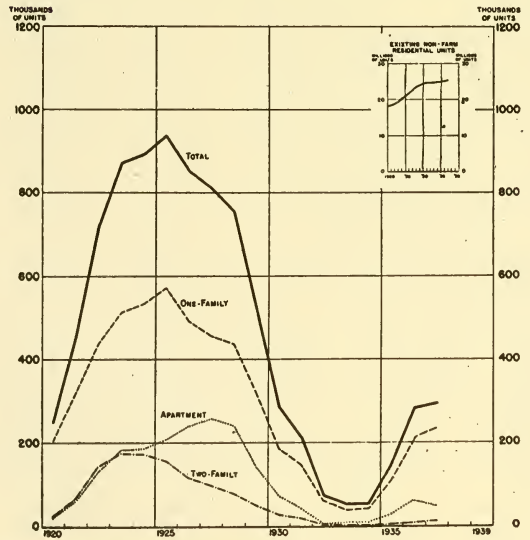
Dr. LUBIN. You will note that the low point in construction was reached in 1933–34, while the low point in industrial production was reached in 1932. You will note further that the peak of residential building was reached at about the same time as the peak in total building, whereas the peak in private nonresidential, which means factories, office buildings and so forth was not reached until 4 years later. The peak in public works wasn't reached until 1936. In other words, even in the building industry you have a varying pattern of output.

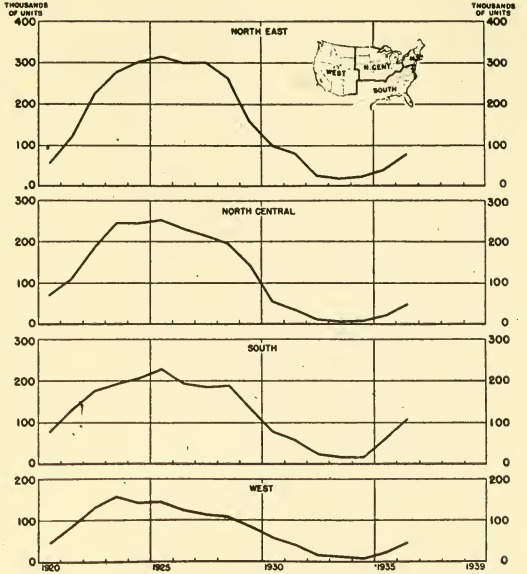
If you take the figure of residential construction, which, after all, is the most significant factor in the American building industry, you will note some rather significant things.

(The chart referred to was marked "Exhibit No. 22" and appears on p. 33. The statistical data on which this chart is based are included in the appendix on p. 205.)

EXHIBIT No. 22

RESIDENTIAL UNITS PROVIDED FOR IN NEW NON-FARM CONSTRUCTION





SOURCE: NATIONAL BUREAU OF ECONOMIC RESEARCH

Dr. LUBIN. You will note that the actual number of residences that were built fell from 937,000 units in 1925 to 54,000 in 1933. Industrial production, of course, never changed at such terrific rates. Even in 1937 the number of dwelling units erected was only up to 294,000. In terms of one-family units, we are just about back to the point where we shall produce 250,000 units this year.

On the other hand, the number of two-family houses being built in the United States is still virtually zero.

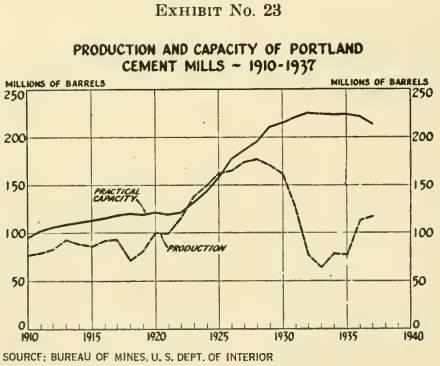
As a matter of fact, the actual number of two-family houses built in 1934 was 3,000. The actual number of apartments built in 1932 was only 7,000, whereas one-family houses never fell below 39,000 units and in 1937 aggregated in excess of 233,000.

It is interesting to compare the trend of housing in various parts of the country. You will note that the Northeast got far above the rest of the country, fell to approximately 18,000 units per year, and now is gradually going up. You will notice, on the other hand, that the South is moving up relatively much faster than the Northeast. The North Central States come in some place between the Northeast and the South. In terms of the speed of development the South is moving faster in new housing than any other part of the United States.

Coming back again to the question of the trend of production in various industries as compared with industry as a whole, you will note, Mr. Oliphant, the curve of production from 1910 in cement.

(The chart referred to was marked "Exhibit No. 23" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 206.)

EXHIBIT No. 23



Dr. LUBIN. You will note that starting out with the capacity of approximately a hundred million barrels a year, capacity kept increasing steadily up through 1932, when it was 225,000,000 barrels a year. Production, on the other hand, reached its peak in 1928, went down, and has not come back as far as industry as a whole has come back. The situation of pig iron is similar.

(The chart referred to was marked "Exhibit No. 24" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 207.)

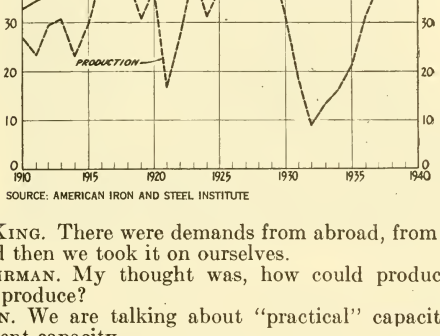
Dr. Lubin. Capacity kept increasing and then flattened out. Production moved up and down, reached a peak of 42,000,000 gross tons in 1929, and fell to 9,000,000 in 1932. It was back to 37,000,000 tons last year.

The Chairman. Dr. Lubin, what is your explanation of the fact that this chart would indicate that some time in 1916 or '17 production exceeded capacity?

Dr. Lubin. War orders. You had a tremendous demand for steel, and capacity was stepped up to take care of them. The industry opened blast furnaces that had been shut down for years in order to fill the orders.

Exhibit No. 24

PIG IRON PRODUCTION AND CAPACITY OF BLAST FURNACES - 1910-1937



SOURCE: AMERICAN IRON AND STEEL INSTITUTE

Senator King. There were demands from abroad, from the warring nations, and then we took it on ourselves.

The Chairman. My thought was, how could production exceed capacity to produce?

Dr. Lubin. We are talking about "practical" capacity—in other words, efficient capacity.

The Chairman. I see. I couldn't see the word "practical" from this point.

Dr. Lubin. You find the same thing true of automobiles, rising from less than 2,000,000 in 1919 to 5,350,000 in 1929, falling to 1,370,000 in 1932, which was less than they produced even in 1919, 13 years previously, and back again in 1937 to 4,800,000.

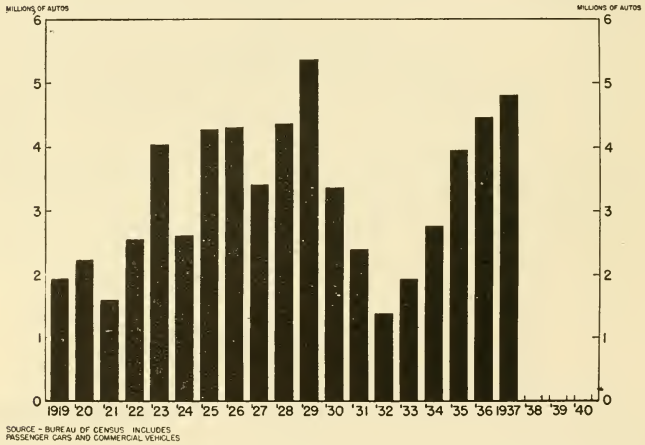
(The chart referred to was marked "Exhibit No. 25" and appears on p. 36. The statistical data on which this chart is based are included in the appendix on p. 207.)

Senator King. Those two charts show a close relation between the production of pig iron and the increase in the production of automobiles.

Dr. LUBIN. There isn't really a close correlation for the simple reason that during periods of high activity the demand for steel is caused not only by automobiles but by building construction, railroads, and other big users of steel. The production of automobiles has moved at a much faster rate, relatively, than the demand for the other products, so although the automobile industry is now becoming increasingly important as a factor in steel production, there was a long period when other industries played a tremendously important part as consumers of steel. If these other industries get back to the

EXHIBIT No. 25

ANNUAL PRODUCTION OF AUTOMOBILES



levels of previous years, the relative effect of automobiles will be even less than it is at the present time.

You see the same thing, of course, in the case of bituminous coal.

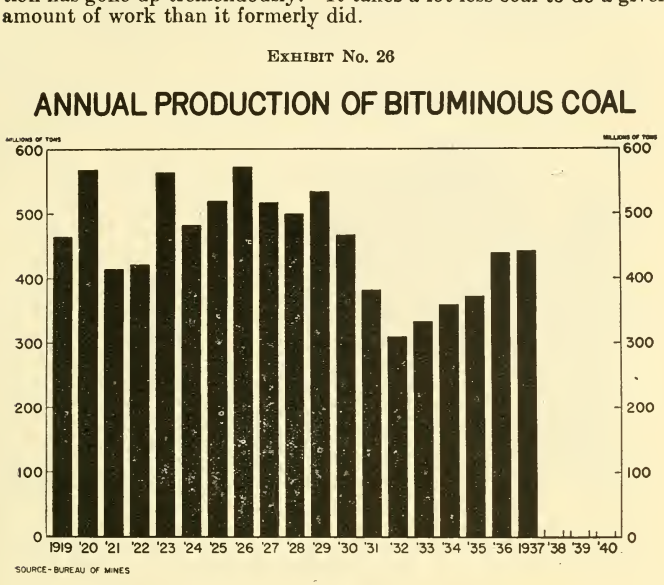
(The chart referred to was marked "Exhibit No. 26" and appears on p. 37. The statistical data on which this chart is based are included in the appendix on p. 207.)

Dr. LUBIN. In 1923 we produced 564,000,000 tons of coal. In 1929, when industrial activity was far greater than in 1923, we produced 30,000,000 tons less, in spite of the fact that industry was producing something like 20 percent more goods. Of course the answer is competition of other fuels, water power, oil, and things of that sort. In 1932 the production of bituminous coal fell to 310,000,000, which is slightly more than half of what it had been; in 1937 it was 440,000,000, and we estimate about 300,000,000 for 1938.

The significant thing is that physical production has been going up during the period from 1933 to 1937, but the increase in coal production has not moved at anywhere near that same rate.

One other factor should be mentioned; the efficiency of coal utilization has gone up tremendously. It takes a lot less coal to do a given amount of work than it formerly did.

EXHIBIT No. 26



Here is the lumber industry, which has also shown tremendous changes.

(The chart referred to was marked "Exhibit No. 27" and appears on p. 38. The statistical data on which this chart is based are included in the appendix on p. 208.)

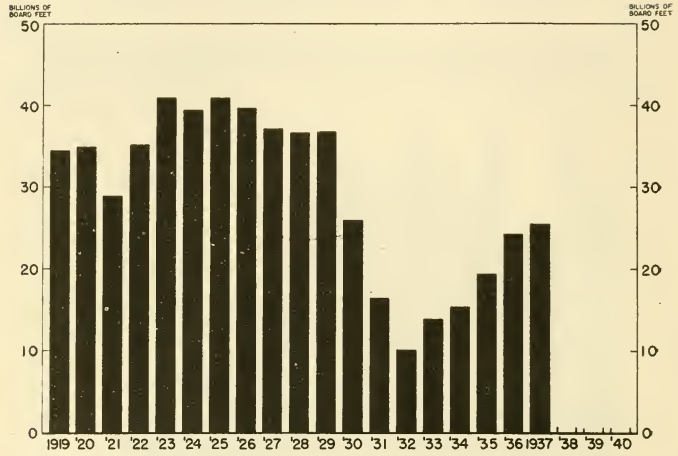
Dr. LUBIN. Forty-one billion feet of lumber were produced in 1925. Production fell to 10,000,000,000 feet, a drop of 75 percent, in 1932, and in 1937 we were not even back to the 1921 level. There is still a marked distance to go to get back to former levels, despite the fact that industry as a whole has made marked gains in the meantime. Of course, building is the big factor in lumber production. There is the other factor that substitutes for wood are being increasingly used, particularly in cartons, which have almost entirely displaced wood boxes.

In contrast to the industries I have been showing you, which produce for the most part durable goods, look at the shoe industry, which produced far more shoes in 1936 and 1937 than were produced in 1929.

(The chart referred to was marked "Exhibit No. 28" and appears on p. 38. The statistical data on which this chart is based are included in the appendix on p. 208.)

EXHIBIT No. 27

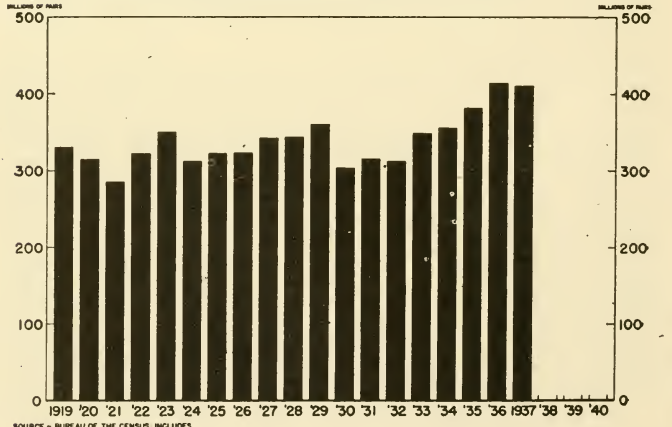
ANNUAL PRODUCTION OF LUMBER



SOURCE—FEDERAL RESERVE BOARD AND BUREAU OF THE CENSUS

EXHIBIT No. 28

ANNUAL PRODUCTION OF SHOES



SOURCE — BUREAU OF THE CENSUS. INCLUDES BOOTS, SHOES, AND SLIPPERS OTHER THAN RUBBER.

Dr. LUBIN. Here we have nondurable consumer goods, something that wears out relatively fast, plus the fact that there has been a very marked style change in the industry. If you want people to wear out shoes fast, change the style that women use frequently, and you automatically create a new demand. There has also been a tremendous change in the technique of shoemaking.

Mr. OLIPHANT. Do you know of any durable goods that will follow that line?

Senator KING. There is less leather used in the manufacture of shoes than 10 years ago.

Mr. HENDERSON. I think if you had a refrigerator chart, that would be inclined to be comparable in consumer durable goods.

Dr. LUBIN. Yes. It is a new product coming into the market.

Senator BORAH. What are the figures there on importations?

Dr. LUBIN. This is 1936 and 1937. I don't know the exact figures but I know in 1937, when they were holding hearings on the wage-and-hour bill, the question of shoe importations was raised, and I think that at that time we were importing about 1,000,000 pairs per year, while we were producing something in excess of 400,000,000 pairs in the United States.

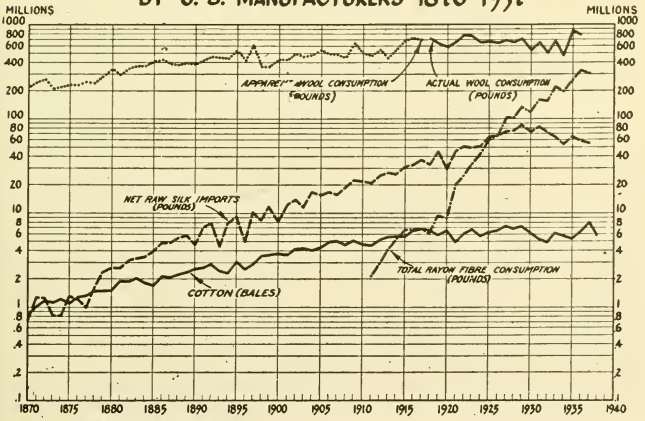
Senator KING. And it has been reduced during the past year, on imports from Czechoslovakia, particularly.

Dr. LUBIN. Here is the case of cotton, another nondurable goods. We consumed more cotton in the year 1937 in our factories than in any other year in our history, despite the fact that at the same time silk was going up and rayon was taking a tremendous jump here, and wool consumption also was expanding.

(The chart referred to was marked "Exhibit No. 29" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 208.)

EXHIBIT No. 29

TEXTILE FIBRE CONSUMPTION
BY U. S. MANUFACTURERS 1870-1937



SOURCE: BUREAU OF AGRICULTURAL ECONOMICS
BUREAU OF THE CENSUS
BUREAU OF FOREIGN AND DOMESTIC COMMERCE

Representative SUMNERS. May I ask you, please, have you any figures to show whether or not that increase of production in any of those years added to the carry-over, added to the surplus?

Dr. LUBIN. There were surplus inventories in textiles, very definitely, this past fall.

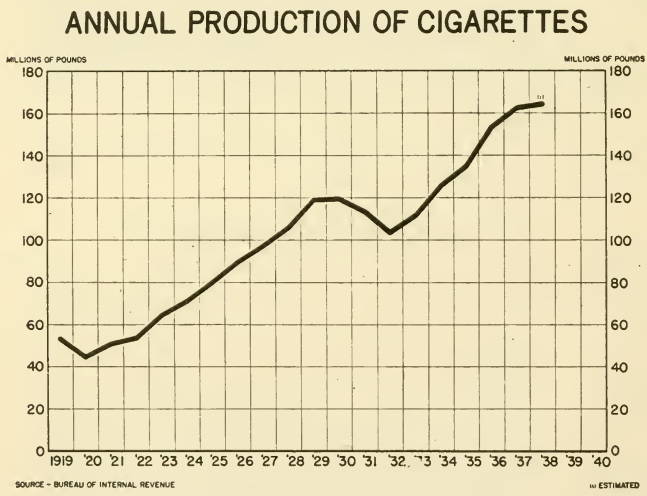
Representative SUMNERS. I am afraid I didn't ask my question properly. Is there any way to show what percentage of those increases added to the surplus? Do you show whether there gets to be a momentum of production so that you run your surplus up beyond what your consumption is over a given period.

Dr. LUBIN. I think very definitely that happened in cotton in 1937. We were not absorbing our production. I think it was also partly true in wool.

Now, I would like to turn to one more consumer goods, namely, cigarettes.

(The chart referred to was marked "Exhibit No. 30" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 210.)

EXHIBIT No. 30



Dr. LUBIN. Here you have an astounding situation. In 1929 we consumed 119,000,000 pounds of tobacco in making cigarettes. We consumed the same amount in 1930. Last year we used 163,000,000 pounds. There was a slight drop in 3 years shown on this chart but otherwise cigarette consumption has followed a perfectly straight line. I know of no more nondurable consumer goods than cigarettes.

Finally, in contrast with what happened in the manufacturing industries, we have this chart, with tremendous ups and downs, showing department-store sales.

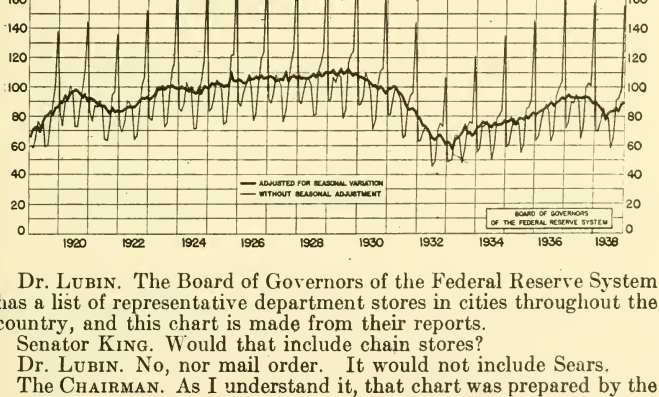
(The chart referred to was marked "Exhibit No. 31" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 210.)

The CHAIRMAN. You are now referring to the chart on department-store sales?

Dr. LUBIN. Yes. You will note that we have never gotten back to the levels of 1926, 1927, and 1928 in our department-store sales. As a matter of fact, at the present time we are doing about 16 percent less in terms of volume of sales, based on dollar volume, than the 1923–25 average. However, that does not mean we are selling that much less goods, because there has been a change in the retail price level.

Senator KING. Where do you draw the line between department stores and semidepartment stores, if I may use that expression, or other stores selling the same articles?

EXHIBIT No. 31



Dr. LUBIN. The Board of Governors of the Federal Reserve System has a list of representative department stores in cities throughout the country, and this chart is made from their reports.

Senator KING. Would that include chain stores?

Dr. LUBIN. No, nor mail order. It would not include Sears.

The CHAIRMAN. As I understand it, that chart was prepared by the Federal Reserve System and it is rather a typical chart than an attempt to survey the entire merchandising structure.

Representative REECE. I didn't hear all the questions. This may have been asked by one of the other members. Does the chart include sales by 5-and-10-cent stores and drug stores, the activities of which appear to have been widened very greatly in the last few years?

Dr. LUBIN. No, it does not. There are statistics available, not going back very far, showing chain-store sales and also showing mail order sales. These are only department stores in selected cities in the country which have been reporting over a period of years to the Federal Reserve System.

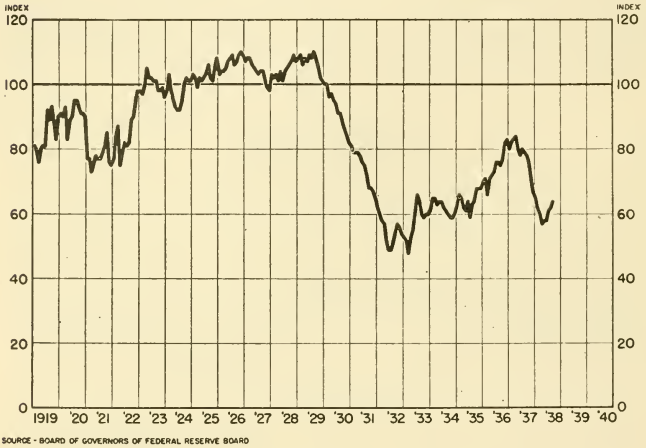
Representative Reece. The sales of these stores have a very important relationship, however, to the total sales.

Dr. Lubin. You have here an industry sharply affected by durable-goods production.

(The chart referred to was marked "Exhibit No. 32" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 211.)

Exhibit No. 32

INDEX OF FREIGHT-CAR LOADINGS



Dr. Lubin. The bulk of transportation on rails is heavy stuff. Of course, the percentage going over rails has been getting less and less, but the effect of the importance of the durable goods industry upon the railroads is shown here very definitely, where the drop is almost proportionate to the drop in the heavy goods industries, with the rise following pretty closely the rise in the heavy goods industry. Whether or not we ever get back to the point where we will be carrying as much freight in terms of carloads as we were before 1929, due to the road situation of this country and the trucks, of course, is a question.

The Chairman. If it is convenient to you, Dr. Lubin, we will take a recess at this time until 2 o'clock.

(Whereupon, at 12 o'clock noon, a recess was taken until 2 p. m. of the same day.)

AFTERNOON SESSION

The committee reconvened at 2 p. m. in the Caucus Room, Senate Office Building, on the expiration of the recess.

TESTIMONY OF ISADOR LUBIN, COMMISSIONER OF LABOR STATISTICS, DEPARTMENT OF LABOR, WASHINGTON, D. C.—Resumed

The CHAIRMAN. The meeting will please come to order. We are ready to begin, Dr. Lubin.

Dr. LUBIN. Mr. Chairman, if I may sum up this morning's discussion, I would like to emphasize the fact that my purpose thus far has been to show what the loss has been to the American people as a result of the failure of our economic system to function smoothly. As I pointed out, the total cumulative loss in national income over the period of 9 years adjusted to a fixed price level, was $133,000,000,000. I would like to point out further that if you make no allowance for the change in price level that figure becomes $225,000,000,000. In other words, if you took the total losses for each year and added them together, and did not adjust them for changes in price level, you would get the latter figure.

The CHAIRMAN. What was that sum, without the adjustment?

Dr. LUBIN. It was $225,000,000,000.

I attempted to point further to the segments of the economy that failed to function, and attempted to point out further how the loss was divided among the wage and salaried workers of the country, the farmers and the investors. I pointed out further that in the manufacturing industries the great losses occurred in the durable goods industries, namely, those that produce the commodities that are slowly consumed as for example, machinery, plant equipment, refrigerators, automobiles, and things of that sort.

EMPLOYMENT AND PAY ROLLS IN DEPRESSION

Dr. LUBIN. The effect of these shifts in the economy is shown in this chart, called "Nonagricultural employment in the United States."

(The chart referred to was marked "Exhibit No. 33" and appears on p. 44. The statistical data on which this chart is based are included in the appendix on p. 211.)

Dr. LUBIN. This chart depicts the number of people employed in the manufacturing, mining, construction, transportation, and public-utility industries. You will note that there was a decline in employment up to 1933. Then an upturn took place, followed by a fall, so that by 1938 we have 12,802,000 people employed in manufacturing, mining, construction, etc., as compared with nearly 17,000,000 in these industries in 1929.

On the other hand the number of people employed in trade, finance, services, and the government, was almost the same in 1929 as it is today. The actual figure in September, 1929 was about 13,000,000, and the figure today is about 12,500,000.

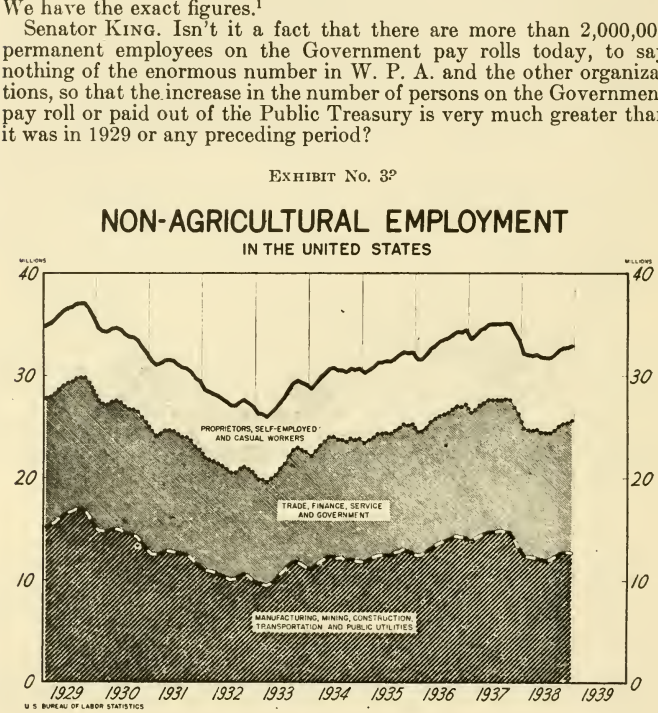
The number of proprietors, self-employed and casual workers, actually increased as compared with 1929.

The CHAIRMAN. May I ask, before you leave that, whether you have made any break-down of the middle group, namely trade, finance, and government? The question I have in mind is whether or not there has been a large increase in the numbers employed by government.

Dr. LUBIN. We have the actual figures of the numbers employed. There has been a perceptible increase in the number employed by government, but the increase in government employment as compared with the total rise of all employment has been relatively small. We have the exact figures.[1]

Senator KING. Isn't it a fact that there are more than 2,000,000 permanent employees on the Government pay rolls today, to say nothing of the enormous number in W. P. A. and the other organizations, so that the increase in the number of persons on the Government pay roll or paid out of the Public Treasury is very much greater than it was in 1929 or any preceding period?

EXHIBIT No. 3?



Dr. LUBIN. These figures do not include W. P. A. or C. C. C. They include regular Government employees on the regular pay rolls of the

[1] See the following table:

Government employment (included in total nonagricultural employment estimate)

[In thousands]

	September 1929	March 1933	September 1937	July 1938	October 1938
Regular government service [1]	2,558	2,530	2,890	2,925	2,913
Government construction [1 2]	783	533	705	670	735
Total	3,341	3,063	3,585	3,595	3,648

[1] Federal, State and local, including education.

[2] Including P. W. A

Source: Bureau of Labor Statistics.

Government, and city governments, State governments, county, municipal, and others. They do not include those on relief projects.

Mr. ARNOLD. Your point is that it takes the same number of people to get that particular job done.

Representative REECE. What does "casual workers" mean?

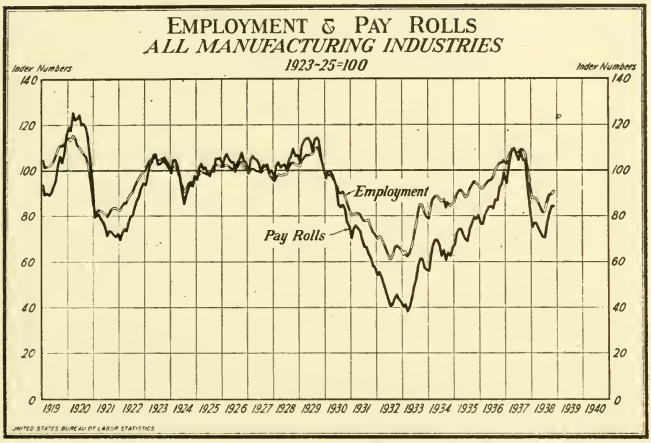
Dr. LUBIN. Longshoremen, domestic servants, and so forth, people who do not have steady employment in the sense that they work month after month in the same industry.

The CHAIRMAN. How about the construction industry? A good deal of that work is casual.

Dr. LUBIN. Some of that is included here.

(The chart referred to was marked "Exhibit No. 34" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 213.)

EXHIBIT No. 34



Dr. LUBIN. I want to deal, next, with what has happened to employment in the manufacturing industries during recent years. For the sake of comparison we have taken the average of 3 years, 1923, 1924, and 1925, as our base. I should like to point out that despite the fact that our index of physical production rose very perceptibly, by 25 percent, during the decade of the twenties, the total number of people employed in the manufacturing industries hardly rose at all. As a matter of fact, with the exception of a short period in 1929, the manufacturing industries of the country employed just about the same number throughout the decade, although for a short period they reached a point where they were employing 10 percent more workers than they did in the base years.

(The chart referred to was marked "Exhibit No. 35" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 214.)

The CHAIRMAN. In other words, there was a constantly decreasing number of persons necessary to produce a constant output.

Dr. LUBIN. Exactly.

Senator KING. That constant output, and any improvement in it was the result in part of new technology.

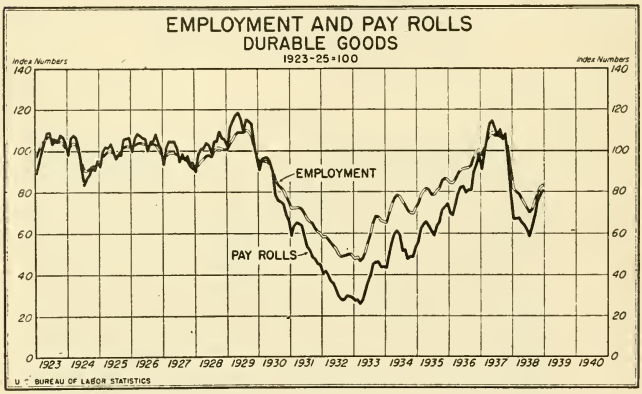
Dr. LUBIN. New technology, new methods of doing things.

Senator KING. Greater use of machinery.

Dr. LUBIN. And changes in management procedure; not necessarily putting in new machines, but reorganizing the flow of goods and processes and things of that sort.

Senator KING. Better distribution.

EXHIBIT No. 35



The CHAIRMAN. In other words, what you are demonstrating is that both the capacity to produce and efficiency of production have been increased.

Dr. LUBIN. Exactly.

Now, the question arises how to account for the employment situation during this period of time when production was going up, employment in the manufacturing industries remained more or less stable, at the same time that we were adding to our labor supply—we were adding the net of something like 600,000 people every year.

Senator KING. In part, women?

Dr. LUBIN. Proportionately about the same number of women as in the previous decade. These figures show the net growth in the number of people of working age who normally go to work after they reach a certain age.

The CHAIRMAN. How many per year?

Dr. LUBIN. Approximately 600,000.

The CHAIRMAN. That is a net increase?

Dr. LUBIN. Net increase. These new workers went into garages, beauty parlors, hotels, laundries, dyeing and cleaning establishments, and other service trades. We developed a series of services which added to our standard of living during that period and furnished the labor supply for them through the workers that were entering the labor market each year.

Senator KING. Isn't it contended that there were about 18 new industries developed during the past few years which have absorbed several million employees?

Dr. LUBIN. I would say over the last decade and a half, yes.

The CHAIRMAN. Has the expansion of the service group of activities absorbed this increased available labor population?

Dr. LUBIN. It did at a pretty good rate up until 1929. Since 1929 it has not been doing so.

If I may point for a moment [1] to what happened to the employment situation after 1929, so we may follow it through, it reached a peak of 110 in 1929. It fell to 61 at the bottom of the depression in 1932. In other words, for every 110 people who had jobs in factories in 1929, only 61 had jobs at the bottom of the depression. By 1937 most of those workers were absorbed. Last year we were employing in our factories almost as many people as we employed at the peak of 1929. In other words, the manufacturing industries of the country had returned to the point where they were doing as well in terms of employment as they had been doing in 1929. Pay rolls, on the other hand, which had reached a point in 1929 where they were 14 percent above the average period, 1923–25, fell to 38 percent of 1923-25 in 1932. Our factories were paying out 38 cents each week for every dollar that they were paying out in the early part of the decade. As far as the wage earners were concerned, they were getting, in actual pay rolls each week, approximately 62 percent less than they had been getting in the 1923–25 period.

The CHAIRMAN. In other words, the compensation of industrial workers, factory workers, dropped to a much greater extent than the number of persons employed.

Dr. LUBIN. Yes. That, of course, was due in part to wage slashes, but also to irregular employment. Many workers had a job only 1 or 2 days a week where formerly they worked 6.

The CHAIRMAN. Apparently from that chart the compensation remained far below the employment level for several years.

Dr. LUBIN. Yes; very definitely. As a matter of fact, it remained below it until early in 1937.

Senator KING. You are speaking of the aggregate number of employees, rather than the compensation per unit?

Dr. LUBIN. Yes. As I have said, factory employment did return to the 1929 level. Pay rolls also rose to just about where they had been in 1929. Last October they both dropped. Today we are back to where we are employing 86 people for every 100 we formerly employed (1923–25), and we are paying out 70 cents to——

Representative REECE. (interposing) Does your employment curve include only those regularly employed, or does it also include those intermittently employed, 1, 2, or 3 days a week?

Dr. LUBIN. If they are on the pay roll at all, they are included.

[1] Referring to exhibit No. 34, supra, p. 45.

Representative REECE. Does your pay-roll line show the hourly or daily wage, or the total sum paid for labor?

Dr. LUBIN. This shows the total sum paid out each month for labor, all of the dollars paid out by all the factory employers.

Representative REECE. The two curves, then, paint a slightly different picture, do they not under those circumstances?

Dr. LUBIN. What the curve attempts to show is that the number of people who actually had jobs—some people may have had only 2 or 3 days of work a week—fell to the point where we were employing only 61 people for every 110 formerly employed whereas the amount that was paid out to those people who were working was decreased to the point where for every $1.14 that had been paid out in wages, only 38 cents was being paid out.

Representative REECE. I understand, but still I am wondering if your pay-roll line bears the proper relationship to the employment line, since the employment line includes those intermittently employed, employed on a part-time basis, whereas your pay-roll line includes the total wages paid, and therefore would have a tendency to indicate that probably the daily wage was less than it actually was.

Dr. LUBIN. As I attempted to make clear, Congressman Reece, the reason why pay rolls were so much lower than employment is partly due to a cut in wage rate. But the major reason was the fact that the people who were working were working part time, whereas earlier they were working full time, so that at the end of the week the amount they earned was considerably less than would have been true had they had fuller employment.

Senator KING. May I interrupt you? I have before me Kuznet's tables, upon which you have largely based your calculations. I find that in 1919 the entire wages and salaries paid was approximately $38,821,000,000 and in 1935 it is $38,755,000,000, and this table shows the payments in dollars during each of the succeeding years between 1919 and 1935, and along in the twenties, sometime, it was less than the amount paid in wages in 1935.

Dr. LUBIN. That included all wages and salaries, sir. These figures include only factory workers. This chart refers only to manufacturing industries.

Senator KING. Take employees' compensation; the amount is $41,631,000,000.

Dr. LUBIN. That is the total paid out in a year.

Senator KING. And the total income for the year—have you those figures here?

Dr. LUBIN. Yes. Did you say 1935?

Senator KING. So that $41,631,000,000 was paid in wages and salaries out of fifty-five billion.

Dr. LUBIN. I don't know what figures you are referring to when you say employees' compensation was forty-one billion; the gross national income was fifty-three billion.

Senator KING. That is what I indicated, so that nearly 80 or 90 percent of the entire national income was paid in wages. I am not a mathematician.

Dr. LUBIN. Sixty-six percent, approximately.

Representative SUMNERS. Doctor, have you anything, if I may ask you, to indicate how much the development of labor saving devices is reflected in those relative volumes of production and wages?

Dr. LUBIN. I would say they were a very significant factor. We do have materials available dealing with specific industries. Some industries progressed at a very fast rate. Other industries on the other hand changed very little in their output per man-hour. One can't generalize. Labor-saving devices were an important influence on what happened to the output on railroads per man-hour, bituminous coal mining per man-hour, and anthracite mining per man-hour, and manufacturing per man-hour.

For instance, in the textile industry over a period of 20 years a very marked increase in output per man took place. That didn't mean that every plant in the industry had increased its output. The plants that had modernized and put in more efficient equipment were the ones that accounted for the change.

We had found that if you took a plant in the cotton-textile industry in 1906, which was equipped with the best machinery known in those days, and compared it with a plant in 1936, 30 years later, equipped with the best machinery known in 1936, you could get almost 60 percent more out of each worker per hour than you could 30 years previously, but that will vary from plant to plant.

The tremendous drop in factory employment and pay rolls becomes particularly significant, if you break this line up into the two important groups of manufacturing industries, namely, the durable group and the nondurable group. That I shall do next (referring to exhibit No. 35 [1]).

You will note that employment fell to the point where 61 people were employed for every 100 that had been employed in 1923–25. If you take the durable-goods industry, you will find only 47 out of 100 were employed in 1932, and pay rolls fell to the point where only 26 cents was being paid out in the durable-goods industries as compared with 38 cents for all manufacturing.

If you compare these figures with those for the nondurable-goods industries you will note that employment fell by approximately 28 percent as compared to a drop in durable goods of 53 percent from the 1923–25 level. You will note, also, that pay rolls in nondurable goods dropped to the point of just about half what they had been. Pay rolls in durable goods on the other hand fell to about a quarter of what they had been. Again emphasizing the part the durable-goods industries played in keeping the economic machine working.

(The chart referred to was marked "Exhibit No. 36" and appears on p. 50. The statistical data on which this chart is based are included in the appendix on p. 216.)

The CHAIRMAN. Don't you think it would be well to give a list of exactly what you call durable goods? You have mentioned three or four different types. You have mentioned automobiles, radios, and machinery.

Dr. LUBIN. It includes all of the metals and materials that go into making machines, all transportation equipment, all housing; iron and steel and steel products like hardware, and so forth; lumber and allied products, including furniture; machinery, including agricultural, electrical, engines, foundries, and so forth; stone, clay, glass, brick, and tile; transportation equipment, including not only railroads, but also automobiles.

And among the nondurable you have food, baking, slaughtering, leather, boots and shoes, paper, pulp, rubber products, textiles, tobacco, things of that sort.

[1] Supra, p. 46.

The CHAIRMAN. In the nondurable group go all of the necessities of life, and in the durable group go practically all the luxuries?

Dr. LUBIN. I won't agree that furniture and automobiles or electric refrigerators are luxuries, but in terms of past history, things which in the past have been considered luxuries and are now considered necessities, would fit that definition.

The CHAIRMAN. I gave it as a question and not as a statement.

Dr. LUBIN. I want to point out one further fact. In May of 1937 the durable goods industries were employing about the same number of people as in 1929 and their pay rolls were almost the same as in 1929.

However, in the nondurable goods industries you will note that by August 1936, we were back to where we were at the peak of 1929 and that in August of 1937 we were above the 1929 level in the employment of people that make so-called nondurable goods.

EXHIBIT No. 36

However, we never got back to the point where we paid out as many dollars in pay rolls in these industries as we did in 1929, when the index was 114. At the peak of 1937 the index was 105. This is a significant factor in the sense that it reflects something with regard to wage rates. The wage rates increased fastest in the durable goods industries in 1936 and 1937.

The CHAIRMAN. The figures you have furnished us so far seem to demonstrate that, as I recall it, production in the nondurable industries has maintained a fairly constant level. Production in the durable industries has shown a very great decline. Now you are giving us this difference between the wages and the employment in the two industries. That appears to demonstrate that in the nondurable industries, wages are still far below, or still below, not far below, employment, whereas in the durable goods group wages have been above employment or at least fairly constant with it. Does that lead to the conclusion that to take up the slack of unemployment it is essential primarily to stimulate the durable goods industries?

Dr. LUBIN. Definitely.

Senator KING. One question, if I may. Is it not a fact that in the nondurable goods, and for that matter in the durable goods, there are

some particular branches or industries where the wages fluctuate more than in others, so that while there might be, adding them all together, a reduction, say, of 10 percent, in some of the industries there would be no reduction at all? There would be fluctuations in various industries so you couldn't generalize with respect to all industries and say that a certain extent of reduction or decrease in wages applied to all industries.

Dr. LUBIN. All one can say is, taking the group as a whole, the number of dollars paid out has fallen by a certain amount. The locomotive industry is a case in point.

(The chart referred to was marked "Exhibit No. 37" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 218.)

EXHIBIT No. 37

Dr. LUBIN. This chart shows that employment did not get back to what it was in 1929. Compare that with the chart for sawmills where employment rose to about two-thirds of what it had been.

(The chart referred to was marked "Exhibit No. 38" and appears on p. 52. The statistical data on which this chart is based are included in the appendix on p. 218.)

Dr. LUBIN. Then, there is cement, where employment never got above three-fourths of the 1923–25 average. In contrast, here is cotton goods, where employment was above the 1929 level for several months in 1934, and again in 1936–37.

(The charts referred to were marked "Exhibits Nos. 39 and 40" and appear on pp. 52 and 53. The statistical data on which these charts are based are included in the appendix on pp. 219 and 220.)

Dr. LUBIN. Here also are additional employment and pay-roll charts for cigars and cigarettes, and woolen and worsted goods.

(The charts referred to were marked "Exhibits Nos. 41 and 42" and appear on pp. 53 and 54. The statistical data on which these charts are based are included in the appendix on pp. 220 and 221.)

EXHIBIT No. 38

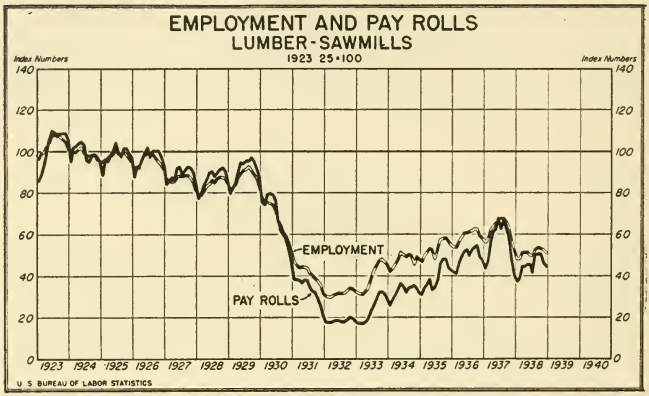


EXHIBIT No. 39

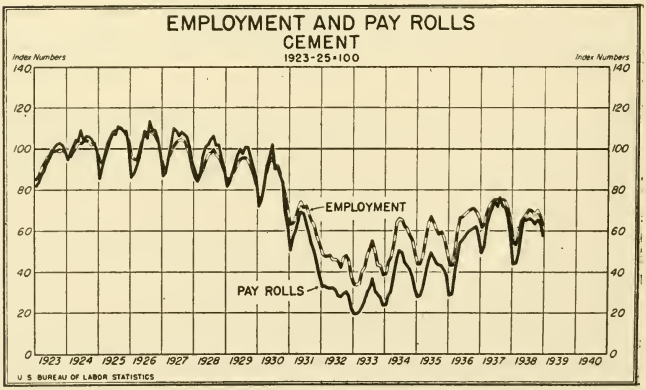
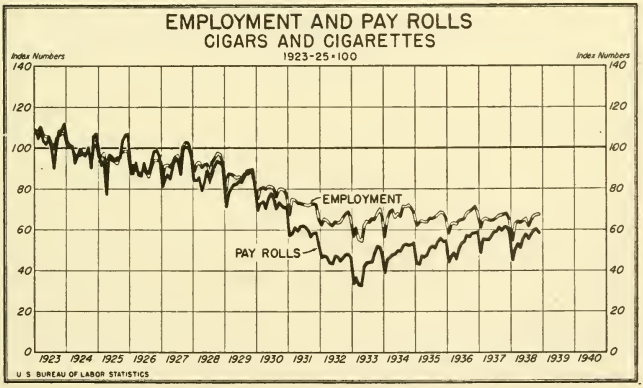


EXHIBIT No. 40

EXHIBIT No. 41



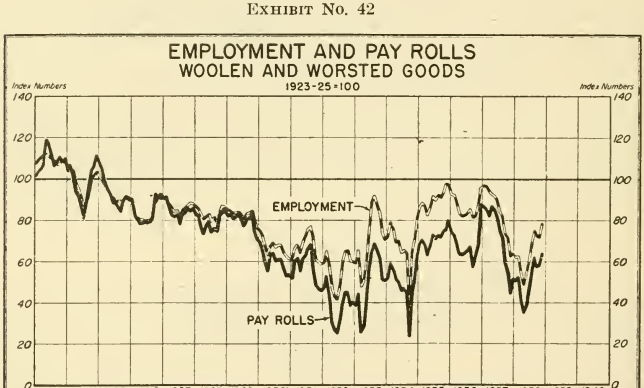
Dr. LUBIN. Here is "Woolen and worsteds" where, throughout the period from 1935 until the middle of 1937, employment was as high or higher than it had been in 1929.

Senator KING. Isn't it true, however, that it isn't fair to compare locomotives, and the diminution in their production with the other industries, because they belong to a very sick industry, our transportation industry?

Dr. LUBIN. That is the thing I am trying to bring out, that the variations have a definite relationship to specific problems of the economy. The reason the cement figure did not go up is because we never got back to our previous building levels. As a matter of fact, in 1935 every other bag of cement in the United States was purchase either by the Government or by a contractor engaged in Government construction.

Senator BORAH. Did the price of cement change significantly?

EXHIBIT No. 42



Dr. LUBIN. Mr. Oliphant, I think, can tell you more about that.

The CHAIRMAN. What is the answer to the Senator's question?

Dr. LUBIN. It didn't change.

The CHAIRMAN. Isn't it a fact that a very large proportion of the output of cement is now being used in the construction of roads?

Dr. LUBIN. The Public Works Program and W. P. A. program are big consumers of cement even today.

The CHAIRMAN. So that "Exhibit No. 39" [1] on cement should not be taken to indicate that construction has come back to the extent that the use of cement has come back?

Dr. LUBIN. We want to bear in mind that public construction, State, Federal, and municipal, has always been a relatively small portion of the total, but at the moment it is a very important one.

The final contrast, Senator, is cigar and cigarette employment. (Referring to "Exhibit No. 41".[2])

I have already shown you what happened to cigarette production. Here is employment. It has never returned to its 1931 level, despite

[1] Supra, p. 51.
[2] Supra, p. 53.

the fact that output has been going up. Some of this is accounted for by cigars going from hand work to machine work.

Mr. HENDERSON. You have, Dr. Lubin, the chart on production of cigarettes?

Senator KING. That is the most concentrated of all industries, isn't it? Nearly 99 percent of the production is in the hands of six or seven big producers.

Dr. LUBIN. Here is the production curve and here is employment and pay rolls.

Mr. ARNOLD. Have prices dropped on cigarettes?

Dr. LUBIN. Retail prices have. I don't know about wholesale prices. The two-for-a-quarter price went into effect some time ago and has stayed in effect in a good many parts of the country.

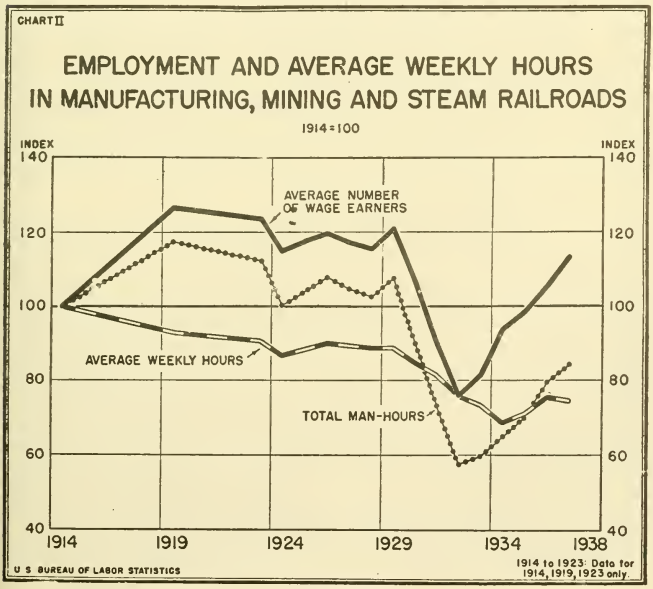
Senator KING. I might say the Government gets nearly $600,000,000 in taxes out of the tobacco industry through the tax on cigarettes each year.

Dr. LUBIN. The pay-roll level has never gone back to where it was. Indeed it has kept consistently below past levels.

Now, if we move from these specific industries back to the whole economy [illegible] again, we might look at these figures of employment and pay rolls in terms of the amount of work that wage earners have had, and their hours of employment.

(The chart referred to was marked "Exhibit No. 43" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 222.)

EXHIBIT No. 43



Dr. LUBIN. It is rather significant that the number of wage earners in the United States in manufacturing, in mining, and steam railroads combined, increased between 1914 and 1919 by 26 percent. Then it fell during the post-war boom. It never returned to its former peak. Manufacturing, mining, and steam railroads combined never got back to the employment levels of 1920. The closest they approached it was in 1929.

Senator KING. That was because of the war and the post-war problem?

Dr. LUBIN. Yes. Similarly the number of hours worked by all of their people put together has never returned to that peak level. The length of the average workweek has fallen by 26 percent during this period from 1914 to 1937.

Senator KING. From 56 hours down, as a maximum?

Dr. LUBIN. This shortening of hours work per week isn't accounted for entirely by the fact that people voluntarily agreed to a cut in hours. The amount of work available was such that in some weeks there were only 36 hours of work available; in other weeks 32, and in other weeks 40. You will notice that between 1934 and 1937 there was an increase in the hours worked per week due to the fact that there was more work to be done, with the result that the men worked longer hours.

The next chart translates the hours worked and average hourly earnings into weekly earnings.

(The chart referred to was marked "Exhibit No. 44" and appears on p. 57. The statistical data on which this chart is based are included in the appendix on p. 222.)

Senator KING. Doubtless your reports show the fact that the oil industry fluctuates. A field will be worked out, like the Signal Peak. There will be a great boom and when the reservoir has been drained dry, they cease to operate, and many will be destroyed, and the workers will go to other fields which may open up, and efforts will be made to revive the industry by securing greater production in Texas or elsewhere. So you would expect to find, in view of the uncertainty in oil production, the diminution and finally the drying up of the reservoirs, that there would be great fluctuation, not only in production but wages and number of hours worked.

Dr. LUBIN. That is true of all industries dealing with a waning resource. The same is true of lumber and mining. In mining the best ore gets worked out first. You know that only too well, Senator.

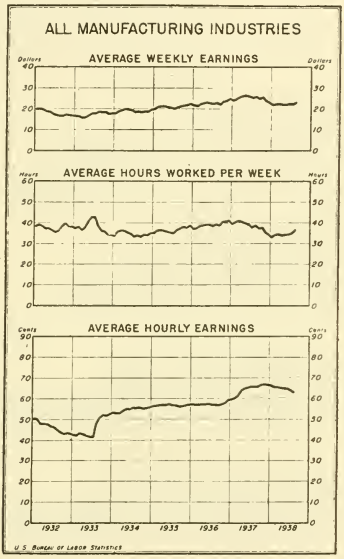
The first thing I want to point out on "Exhibit No. 44" is that at the low point of the depression the people in our factories were averaging about 38 hours of work a week; today they are averaging 37 hours a week. They averaged 41 a year ago last spring when industry was moving at a fast rate. This means that the decrease in hours was primarily affected by the amount of work available, because, when there was work available last year they worked as much as 41 hours a week on the average in the manufacturing industries as a whole. Many of these industries were paying time and one-half for overtime over 40 hours, whereas in the earlier days they weren't doing that. The change in the number of hours worked, plus the increase in the wage rate from less than 50 cents an hour on the average in 1932 to 67 cents on the average last year, at the high point of production—it has fallen to 63 cents since—affected the weekly income of our wage

earners to the extent that whereas they had fallen to $15.70 a week during the depression, they rose to approximately $26 at the peak of last year, and are now to $23.32.

Senator KING. Where do you draw the line between wage earners, entrepreneurs, representatives, directors who are taking part in the activities of the day's work?

Dr. LUBIN. We have to leave that up to the employer himself. We ask the employers to give us the number of people actually on their pay roll as wage earners, and omit certain types of supervisory forces. We have to trust their judgment as to whom they think is a wage earner or supervisory official.

EXHIBIT No. 44



Senator KING. Have your investigations demonstrated that that classification has been generally fair?

Dr. LUBIN. Yes. Every now and then we try to get extra data on salaried workers.

Senator KING. You don't include salaried workers in the figures you have just been giving?

Dr. LUBIN. These are wage earners only.

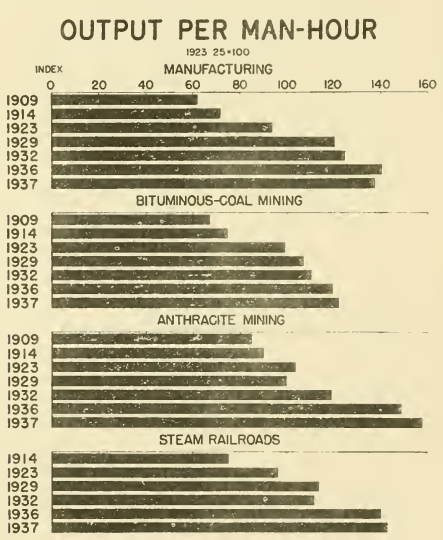
How has it become possible to pay the higher wage rates per hour? The answer is revealed in what has happened to the amount of goods people turn out in industry.

(The chart referred to was marked "Exhibit No. 45" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 223.)

Dr. LUBIN. You will notice on exhibit No. 45 that in manufacturing as a whole the output per man has increased from 60 to 140, which is an increase of 130 percent between the years 1909 and 1936. In 27 years the output per man had more than doubled. It had increased 130 percent. In 1937 it was down a bit to 137, but still much greater than it was during the earlier periods.

In bituminous coal, output increased from 67 to 122. In anthracite it increased from 85 to 158. I want to qualify these figures. One reason why these men are turning out more per hour than they

EXHIBIT No. 45



did in former years is because more and more of the poorer mines have been shut down and, particularly in anthracite, the only ones operating to any large extent are the best mines. Output is being concentrated in the better mines, and the output per man automatically goes up. That is true in part of bituminous coal.

Senator KING. Before you leave that, isn't the fact of the greater production in part due to the new methods of mining coal? They have the cutting machines, and the loading machines, so that, whereas a few years ago the work was done largely by hand, or a great deal of it, now it is done largely by machinery.

Dr. LUBIN. Particularly in bituminous coal. In the anthracite you have the situation where the poorer collieries have been shut

down and they have only operated the better mines. Of course, they also use more efficient methods. Each man is actually turning out more things per hour than he did formerly.

Similarly on railroads——

Representative SUMNERS (interposing). May I ask one question? The figures of 1936 and 1937 indicate production per man. Does that chart have figured into those relative lines any change in the number of hours of work a day?

Dr. LUBIN. This is per man-hour.

On railroads, output increased from 75 in 1914 to 143 in 1937, which is an increase of slightly more than 90 percent. There, of course, you have the same proposition—longer freight trains, heavier engines, more efficient engines, and things of that sort.

Senator KING. Better tracks.

Dr. LUBIN. And everything else that goes with it.

Senator KING. Isn't it in part due to a number of consolidations which have made for economies, getting rid of railroads that were inefficient and didn't serve any useful purpose, indeed were a liability rather than an asset to the general public.

Dr. LUBIN. The actual amount of abandoned lines has been rather large, but in terms of the amount left over, I don't know how large it would be proportionately.

If you look at the figures showing what the wage earners of this country received in these industries, that is, manufacturing, mining, and railroads, you will find that in 1914 the average weekly wage was $11.60; that it jumped to $25.65 in 1929, and fell to a little less than $24 in 1937.

(The chart referred to was marked "Exhibit No. 46" and appears on p. 60. The statistical data on which this chart is based are included in the appendix on p. 223.)

Senator KING. You are speaking only of manufacturing?

Dr. LUBIN. Manufacturing, mining, and steam railroads, combined. This appears to be a great increase—from $12 in 1914 to more than $25 in 1929. However, if you consider what these dollars will buy—the actual increase in terms of what the workers received for their dollars—you will note that although wages jumped from $12 to about $25, the exact figure being $25.65 in 1929, prices went up so much faster that in terms of the goods they could buy their income per week in 1929 was only $15 as compared with $11.60 in 1914.

The CHAIRMAN. Does this chart represent weekly wages?

Dr. LUBIN. These are real weekly wages. In other words, wages did go up faster than prices, but not very much faster, because as I have said in terms of the goods they could buy, wages were worth only $15 as compared to the $11.60 they formerly were getting. In terms of dollars, their checks read $25.65.

The CHAIRMAN. Do I read this chart on real wages correctly? It seems to indicate that in 1914 the average cash wages, weekly, received in all manufacturing, mining, and steam railroads, amounted to less than $12, and that that went up until in 1919 it reached $22 a week, and in 1929, $25 a week, but that the real wages during this same period increased from $11 per week to $15 in 1929?

Dr. LUBIN. And is now $16.46 in real wages as compared with less than $24 in nominal wages. These $24 will buy about $16.46 worth of goods as compared to what $11 would have bought in 1914.

Senator BORAH. In other words, the power, however it is exercised, bought that much?

Dr. LUBIN. They received the difference between $15 and $25.65. Of course, the folks who made these goods had to pay higher prices for the things they bought, too.

Senator BORAH. They very likely did.

EXHIBIT No. 46

Senator KING. Dr. Lubin, have you compared the prices of a considerable number of commodities that the ordinary household buys now with the prices for a number of years back, on the base line which you have taken?

Dr. LUBIN. Yes. This is based upon the actual cost of living. We take what a dollar will buy in terms of food, clothing, health, recreation, education, and things of that sort, today, as compared with 1914.

Senator KING. Would not that statement mean that commodities now were two or three or four times as high in price as they were in 1909?

Dr. LUBIN. It means that what $12 would buy in 1914 would cost $16.50 today.

Mr. ARNOLD. No, no.

Dr. LUBIN. The difference between weekly cash wages and weekly real wages represents price increases. To put it in another way, $1.44 is required today to buy what $1.00 would buy in 1914.

Mr. HENDERSON. Point out the significance, however, that for the person who does have a weekly wage now, the real wages are higher than they have been in any period.

Dr. LUBIN. Yes, he can get more with his weekly wages now than he could before. The actual increase in the cost of living has been 44.8 percent.

Senator KING. I wish you could furnish, if you do have them in the office, a number of articles; take the various forms of textile and cotton goods and shoes and clothing and articles and commodities that enter into our daily lives and give the prices for a number of years back.

Dr. LUBIN. We will break it down in terms of clothing, food, rents, and things of that sort.

(The tabulation referred to was marked "Exhibit No. 47" and appears on this page.)

EXHIBIT No. 47

Estimated annual average indexes of cost of goods purchased by wage earners and lower-salaried workers in 32 large cities combined, 1913 through 1937

[Average 1923–25=100]

Year	All items	Food	Clothing	Rent	Fuel and light	House-furnishing goods	Miscellaneous
1913	57.4	63.1	55.7	61.4	53.9	47.7	50.1
1914	58.2	64.6	56.1	61.4	54.3	49.0	51.2
1915	58.8	63.9	57.4	61.9	54.5	51.3	52 8
1916	63.2	71.7	62.9	62.6	56.6	57.2	55.5
1917	74.4	92.4	75.6	62.1	63.0	66.9	64.2
1918	87.2	106.2	102.5	63.2	73.3	85.9	76.7
1919	101.1	120.2	135.7	68.4	79.4	108.2	86.3
1920	116.2	133.1	161.6	80.4	93.1	132.8	99.1
1921	103.6	101.6	124.4	92.4	99.3	111.8	102.8
1922	97.2	95.0	101.0	95.1	98.6	94.8	99.7
1923	99.0	97.9	101.2	97.5	100.3	101.8	99.3
1924	99.2	97.0	100.4	101.0	99.1	100.1	99.9
1925	101.8	105.0	98.4	101.5	100.6	98.1	100.8
1926	102.6	108.5	97.0	100.5	102.2	95.9	101.1
1927	100.6	104.5	95.1	98.9	100.6	93.6	101.7
1928	99.5	103.3	93.7	96.5	98.9	91.3	102.3
1929	99.5	104.7	92.7	94.3	98.2	90.2	103.1
1930	97.0	99.6	90.7	91.7	97.2	87.9	103.5
1931	88.6	82.0	82.7	86.9	95.1	79.2	102.7
1932	79.8	68.3	73.2	78.0	90.4	68.9	100.2
1933	75.8	66.4	70.9	67.2	87.4	68.0	97.0
1934	78.6	74.1	77.5	62.9	88.6	74.9	96.7
1935	80.7	80.5	77.9	62.9	87.5	76.4	96.7
1936	81.6	82.1	78.7	64.2	87.5	77.8	96.5
1937	84.3	85.1	82.4	67.4	86.6	84.9	97.8

Senator KING. It seems to me in many commodities the prices now are as low or nearly as low as they were years ago.

Dr. LUBIN. There has been a considerable decline. The decline has been from 173 to 144. That is quite a decline, but if you wanted to get back to 1914, before the price rise in the war period occurred prices would have to drop by an additional 44 percent.

The CHAIRMAN. Now, Dr. Lubin, to summarize what you have shown thus far, if I understand these charts correctly, you demonstrated that the average weekly earnings is up, that the average hourly rate of pay is up, but that the average number of hours per week is slightly down. You have also shown that real wages and cash wages are also—well, real wages are up, cash wages are below what they were in 1929. And while you have been showing this you have also indicated that production is greatly off in all of the durable, or practically all of the durable industries, so that makes employment down while these rates have been going up.

Dr. LUBIN. Yes. And, to qualify that further, Mr. Senator, this $16.46 is the weekly earnings of the fellow who has the job, in real wages. Twenty-four dollars are the weekly cash earnings of the man who has the job. The average does not include the unemployed.

Representative SUMNERS. Dr. Lubin, will you have any figures to indicate, for instance, the relative price of agricultural commodities in this break-down?

Dr. LUBIN. Oh, yes; we can do that.

Mr. HENDERSON. I hope we will have a whole hearing devoted to the subject of prices, Mr. Chairman and Judge Sumners.

Dr. LUBIN. We can do that. The fact is, we do break them down into foods, clothing, etc., and in our wholesale prices we break foods down into processed and nonprocessed foods.

Representative SUMNERS. In the agricultural break-down, of course, there will be not only the question of price but a restriction on the amount of production which is now being allowed the farmers of the country.

Dr. LUBIN. The significant thing is that despite that restriction, if you take all agricultural products together, the sum total produced all together, hasn't come down much. The fact is, this year will probably show the biggest output we ever have had in terms of physical units. Of course, in value our output is down.

Representative REECE. In arriving at your real weight, do you give a commodity the same relative weight in the considerations which make up the real weight as it bears to the cost of living, that is, say 50 percent of one's wages goes for rent and food. Is rent and food given a 50 percent relative importance in your real v eights?

Dr. LUBIN. Yes. Rent gets a weight, food gets a weight, recreation gets a weight, church activities and educational activities get a weight. We rate everything in the terms of its importance.

Mr. HENDERSON. Was it your opinion this morning as expressed that we have never produced too much cotton to satisfy our real needs?

Dr. LUBIN. The question was raised as to whether there was too much agricultural production or too little industrial production. I said that so far as I was concerned I couldn't conceive of too much of anything being produced so long as there was a portion of the population that wasn't getting enough of those things.

Representative REECE. This is beside the particular phase of the question which you are now discussing, but is it your intention to include in your discussion any figures to indicate the percentage of employment that is so occasioned by the large corporations compared to the smaller corporations? Take, for instance, the number of people employed by corporations who have a net income of less than a hundred thousand dollars, is that question going to be covered?

Dr. LUBIN. Yes; it is not going to be covered in the introductory hearings, but that is coming into the picture definitely.

Now, if you add these factors together and ask what they mean in terms of loss of national income, in terms of loss of employment, and so forth, you naturally come to the question as to what effect they have upon the people of this country, particularly in terms of the number of unemployed people.

(The chart referred to was marked "Exhibit No. 48" and appears on p. 64. The statistical data on which this chart is based are included in the appendix on p. 224.)

Dr. LUBIN. In this chart I have attempted to show the number of unemployed as revealed by the census of unemployment last November. It not only shows the number of unemployed, but of ages that have been most hit by the falling off in production. I think it is rather significant that in this group of 15–19——

The CHAIRMAN (interposing). That is the age group 15–19?

Dr. LUBIN. Yes; and males. There are in this group approximately 1,100,000 people who are unemployed.

In the 20–24 age group among the males, the number is slightly larger, 1,250,000. Then you have a little over 800,000 males between 25–29, and you will notice the number in each 5-year age group remains just about the same between 30 and 54, and then the number becomes smaller as the age group goes up. You can expect it to be smaller because of the fact that there are fewer people in the older age groups in the population.

Senator BORAH. What about age 60?

Dr. LUBIN. Between 55 and 64, 835,000 males and 194,000 females.

Senator KING. In that lower line, 15 and above, do you include the children who are working on the farm, or do you exclude those?

Dr. LUBIN. Those are people who actually came and registered as unemployed when the census was taken. They include people in agricultural areas as well as industrial if they registered as unemployed.

Senator KING. Were there many registered as unemployed between 15 and 16, say?

Dr. LUBIN. A relatively small number in this total of 1,100,000 of males.

Senator KING. Is there any indication as to their habitat, whether they were in urban or suburban districts?

Dr. LUBIN. We have data by States as well as counties.

The CHAIRMAN. This chart is prepared from the statistics of the unemployment census?

Dr. LUBIN. Yes. Now, that raises a question as to what this all has meant in terms of the part that Government plays in helping our people to maintain themselves.

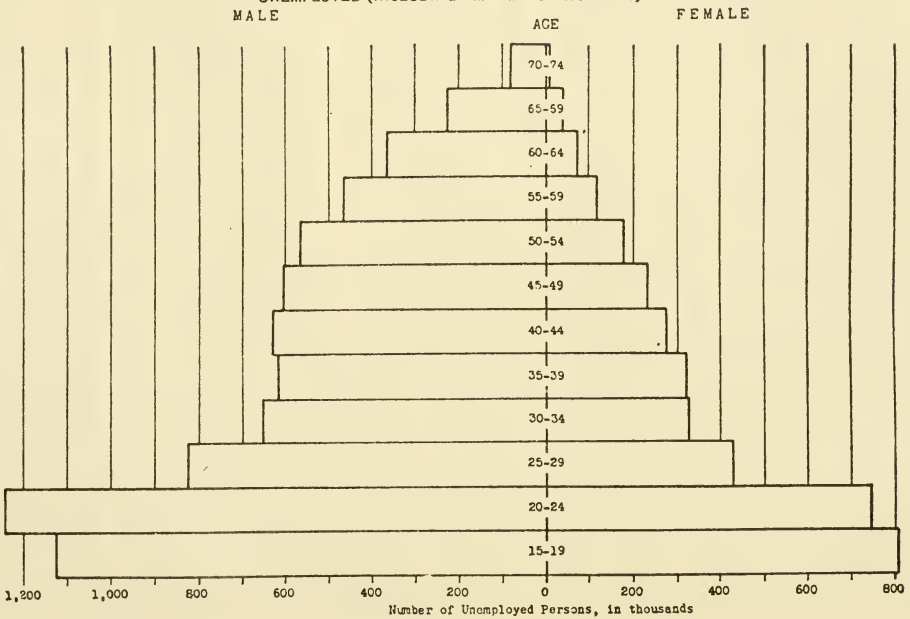
The CHAIRMAN. Before you go to that other chart, may I ask, Dr. Lubin, if it isn't a fact that there is a larger percentage of our people over 60 years of age now than at any time in our history?

EXHIBIT No. 48

ESTIMATED NUMBER AND AGE OF THE UNEMPLOYED

NUMBER OF PERSONS IN UNEMPLOYMENT CLASSES, BY SEX AND AGE, FOR THE UNITED STATES

UNEMPLOYED (INCLUDING EMERGENCY WORKERS)



SOURCE: CENSUS OF PARTIAL EMPLOYMENT, UNEMPLOYMENT AND OCCUPATIONS, NOVEMBER 1937

Dr. LUBIN. Yes, and the number is going to keep increasing steadily for the next 20 years, so that by 1960 it is estimated they will constitute about one-seventh of the population. The estimate made by the Social Security Board shows that number is increasing definitely because of greater longevity.

The CHAIRMAN. What is the fact with respect to the lower age group below 20?

Dr. LUBIN. That number is getting gradually smaller because of the fact that the birth rate has been falling steadily and the number of people becoming 15 each year is smaller.

The CHAIRMAN. So that the problem of finding employment for those, say, above 40 is constantly growing greater.

Dr. LUBIN. In a sense, yes. On the other hand, with fewer and fewer people coming into the labor market to take their jobs away, you ease the pressure. In my personal opinion, the significant problem lies among the young folks, between 15 and 25, who are going to be our future citizens. They are the folks whose morale we have to maintain.

The CHAIRMAN. An effort is being made, of course, to provide education for those in the group under 20, and irrespective of any effort upon the part of Government, isn't it true that a much larger proportion of young people go to school today than did 10 years ago?

Dr. LUBIN. Definitely so. If you had maintained the same rate that you had 20 years ago, there would be more unemployed today.

The CHAIRMAN. So that the real question of unemployment begins with the 20-year group rather than with the 15-year group.

Dr. LUBIN. No. I would say it began at 16, because even though more of them are going to school than in the past, there are still plenty of them who need work. I might state it this way: The problem is not as bad as it would have been had the Government not made it possible for more young folks to stay in school.

Senator KING. Has your Department made any inquiry or any survey as to the number of women, if any, who have taken the place of males, and to that extent have placed on the list of unemployed a larger number of males than otherwise would have been in that category?

Dr. LUBIN. Such data as are available from the census show that the rate of increase of women in industry during the past decade, up to 1930, was not much greater than in earlier decades.

In other words, although more women were working, there were more women in the country to go to work. In proportion to the number of men in industry the increase wasn't any greater in recent decades.

The fact is that the percentage of females at work in 1930, as shown by the census, was actually smaller than in 1910. In 1910 it was 23.4 percent, in 1920 it was 21.1 percent, and in 1930 it was 22 percent. We won't know what has happened in the last 6 or 7 years until we get our census for 1940.

Senator KING. There are new fields of employment—I will call it industry—open now to women which did not exist 10, 15, or 20 years ago. You mentioned this morning the beauty parlors, cosmetology, stenography and typing, and so on.

Dr. LUBIN. On the other hand, we ought to bear in mind that during the war we had a host of opportunities for women which later

disappeared. They were doing all kinds of work that women never did before. Some stayed on but others disappeared. We used to have women as streetcar conductors, and things of that sort.

Senator KING. Many women were actively employed in conducting railroad stations.

Representative SUMNERS. Dr. Lubin, does the disposition or policy of employers of large groups of people to discharge employees after they get along about 45 or 50 years old have anything to do with those figures? I am afraid I am asking my question wrong. What I mean to ask is, Is there any increase in the disposition of employers to discharge their employees when they get along about 45 or 50?

Dr. LUBIN. We are right now in the midst of a study of that very problem. We have surveyed a group of industrial centers in New England and we have had the cooperation of employers in getting their employment records to see who is first fired during periods of lay-off, and who is hired first during periods of increasing employment.

Some time between now and the end of these hearings we will have that study shaped up and we will know the facts on the basis of authoritative information. There is very little authoritative information available now. Incidentally, Senator King, you raised a question about these 15-year-old youngsters. There were about eight times as many at 19 years of age as there were at 15 in that group.

Senator KING. May I interrupt again, in view of the question of Judge Sumners. When the social security bill was under consideration, a number of employers of labor, as well as some of the employees. brought the attention of the Committee on Finance to the fact that they did not approve of, or rather they preferred to permit the manufacturing companies, the employers, to continue their policies under which they had large reserves, which were held by the leading insurance companies and other trustees, so that when persons got old, there was a pension or retirement privilege for them. Some of those who came before us represented that provisions were made so that they would get $156 a month under the pension plans that were set up by a large number of employers, and that they opposed the social security because they would only get for the same kind of work, $69 to $75 a month. I was wondering if your organization had any data showing the number of employers who did have provision for retirement of their employees.

Dr. LUBIN. Yes, there has been a study made by the man who is now head of the Railroad Retirement Board for the Industrial Relations Councilors who are industrial advisers. The only answer one can give to an employer when he says, "I am giving more than anyone else," is, "Keep on giving it. If you say it is going to cost too much, curtail your plan by an amount equal to what you are giving to the Government. But don't cut the total."

Senator KING. But when he refuses to do that, we stated if they continued their plan, they would have to continue to make their payment to the Government.

Dr. LUBIN. True, but with a difference in their payment, they could still continue. If they were paying $2 a week and they now are paying the Government a dollar a week, they could still continue paying that extra dollar. There is nothing to stop them from continuing it.

Senator KING. The Government policy, as I recall (it has been a year or two since we had the matter before the Finance Committee) our plan was hostile to theirs, and they felt they could not assume both responsibilities.

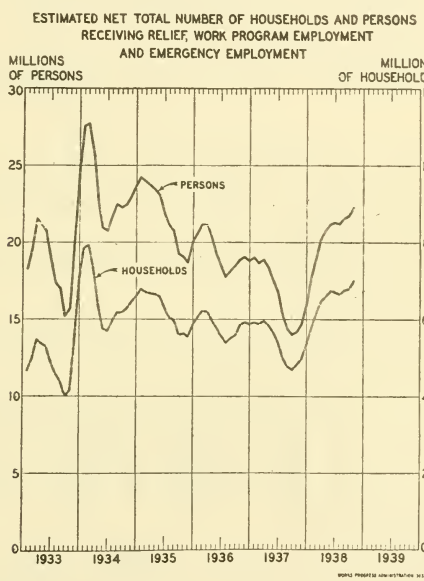
Dr. LUBIN. They could continue to assume part of it. Some firms did.

COST OF DEPRESSION TO GOVERNMENT

Dr. LUBIN. The question I should like to turn to now is: What has the failure of our system to work efficiently cost our Government?

(The chart referred to was marked "Exhibit No. 49" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 224.)

EXHIBIT No. 49



Dr. LUBIN. This chart shows the number of households and persons who are receiving aid under the works program and emergency relief. You will note it is estimated that approximately 6,990,000 households are at the present time affected by either the works program, emergency program, or direct relief. That many families are getting some income in one or the other of these three categories at the present time. In terms of the number of persons affected, it is estimated that approximately 22,230,000 people are affected.

The CHAIRMAN. What was that figure again?

Dr. LUBIN. Twenty-two million two hundred and thirty thousand.

Senator KING. That includes those who would get social relief.

Dr. LUBIN. These do not include widows, mothers, and unemployment insurance recipients. Public assistance under the Social Security Act does come into this picture.

The CHAIRMAN. May I interrupt? On this side of the chart are the figures, millions of households, but that applies only to the lower line. Is that correct?

Dr. LUBIN. Exactly.

The CHAIRMAN. And the figures on the other side refer to millions of persons, and they apply to the upper line?

Dr. LUBIN. Yes.

The CHAIRMAN. So that you are telling us that while there are about six and a half million of households directly affected by some phase of the emergency program, there are in excess of 22,000,000 persons benefiting directly by that program.

Dr. LUBIN. That is right.

The CHAIRMAN. May I ask what relation does that 22,000,000 of persons affected there have to the number of unemployed? When we speak of the number of unemployed, we are speaking of wage earners, chiefly.

Dr. LUBIN. That are looking for work.

The CHAIRMAN. Available for work, and when we are speaking of the number of persons who are directly affected by relief to households, we are referring not alone to the wage earners, but all the members of their families.

Dr. LUBIN. Yes, everybody in the family, including the baby.

The CHAIRMAN. Of course, you are not referring to pensions which are paid to ex-soldiers.

Dr. LUBIN. No.

Senator KING. Going back for many, many years, and for other forms of relief that are given that do not fall under the term of "emergency relief?"

Dr. LUBIN. It doesn't include any of the private relief.

The estimated cost of these programs is $5,638,000,000 for 1938. Incidentally, this figure includes all State, Federal, and local money that is used either for direct assistance, which is the upper line, or for the works program, or for public works which includes not only the P. W. A. but also such public work as is undertaken directly by the Federal Government.

The significant thing in this chart is that we reached our peak of public works in 1936. It came down in 1937 and it just about held its own in 1938. On the other hand, in terms of the work programs, we were spending in 1936 about two and two-thirds billion dollars, and in 1938 we were spending just about the same, whereas in 1937 it was somewhat less.

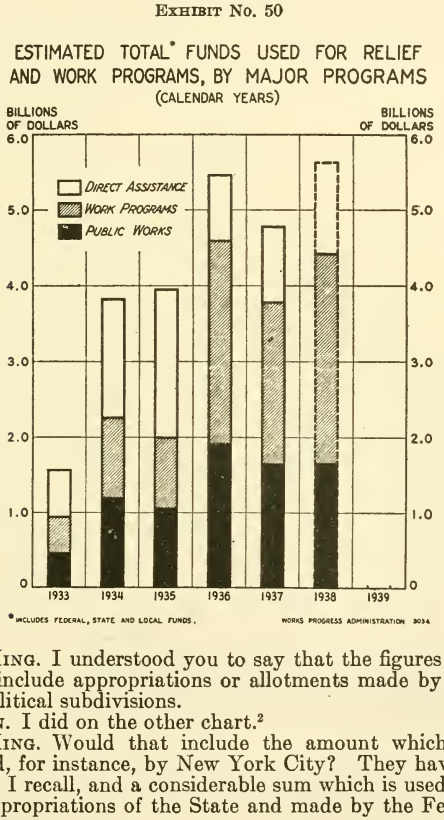
(The chart referred to was marked "Exhibit No. 50" and appears on p. 69. The statistical data on which this chart is based are included in the appendix on p. 225.)

Dr. LUBIN. The way that money has been spent for the most part is shown by this chart.

(The chart referred to was marked "Exhibit No. 51" and appears on p. 70. The statistical data on which this chart is based are included in the appendix on p. 225.)

Dr. LUBIN. This chart[1] includes employment from, not only expenditures on emergency relief, P. W. A., W. P. A., but also all Federal expenditures such as the Army and Navy, civil employes, construction from regular Federal funds, C. W. A., C. C. C., and emergency relief. Back in 1934 we had the C. W. A. Its place was later taken in part by work relief. That was later changed into W. P. A. and other works programs. A very marked decline took place from the early part of 1936 to the fall of 1937 and in 1938 it increased again. The total number of persons estimated to be affected today is 4,946,000, which includes, of course, all the activities financed in whole or in part by the Federal government.

EXHIBIT No. 50



Senator KING. I understood you to say that the figures which you have given include appropriations or allotments made by the States and their political subdivisions.

Dr. LUBIN. I did on the other chart.[2]

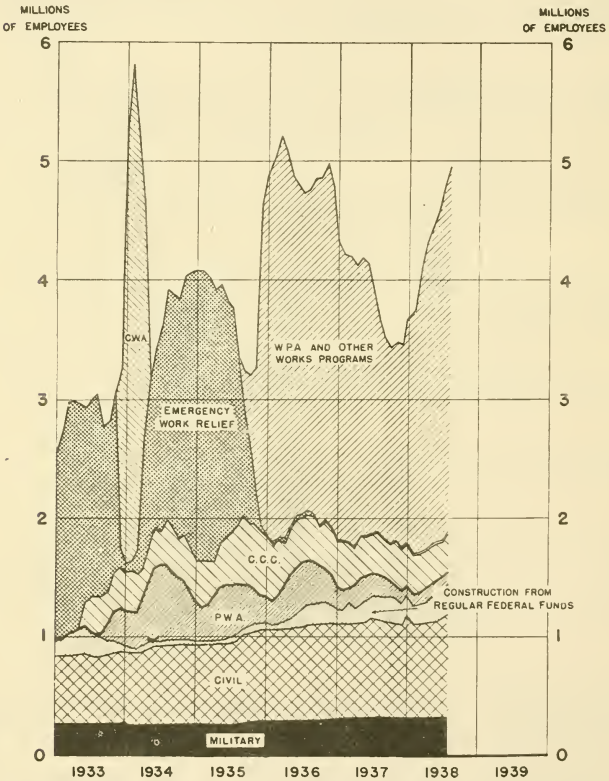
Senator KING. Would that include the amount which has been appropriated, for instance, by New York City? They have a special tax there, as I recall, and a considerable sum which is used to supplement the appropriations of the State and made by the Federal Government.

[1] Referring to exhibit No. 51, p. 70.
[2] See exhibit No. 50, above.

Dr. LUBIN. Yes.
Senator KING. It includes that?
Dr. LUBIN. Yes.

EXHIBIT No. 51

PERSONS EMPLOYED BY THE FEDERAL GOVERNMENT AND ON WORK PROGRAMS



Senator KING. So you have communicated directly or indirectly with the municipalities, counties and States and obtained from them all the expenditures they have made for relief purposes?

Dr. LUBIN. These are Works Progress Administration figures.

The CHAIRMAN. Dr. Lubin, is there an apparent discrepancy between the figures indicated on the lower line of the chart entitled

"Estimated Net Total Number of Households and Persons, etc.," [1] and that indicated in the chart entitled "Persons Employed by the Federal Government and on Works Programs" [2] for the year 1938?

Dr. LUBIN. Yes; there is a difference between those two. I think there are various reasons for it. This figure here, 4,946,000, gives the number of people employed in all activities, including military and the civil. They show the actual number of individuals. On the other hand, it is possible for one individual to help two or three households—he helps his father and mother as well as his wife and children. Moreover, one chart does not include direct relief, cash payments made by cities, States, and so forth, and the other does.

The CHAIRMAN. This includes payments made by cities and States and direct cash relief by all agencies, and this covers actual employment financed in whole or in part by the Federal Government.[3]

Dr. LUBIN. Yes.

Senator KING. Would these figures include the amount which the chest obtains?

Dr. LUBIN. No.

Senator KING. For instance, this city is seeking to raise over $2,000,000 for relief. Your figures would not include what it has raised.

Dr. LUBIN. No.

The CHAIRMAN. Dr. Lubin, might I ask you to have one of your assistants bring forward the chart that you used this morning on monthly income payments? [4]

Representative SUMNERS. I would like to ask a question before we leave this chart. Dr. Lubin, you put a little explanatory statement there, 1934. Take these two charts together.[5] In 1934 there were about 27,000,000 people being benefited, and moving over to this other line, at less than $4,000,000,000, whereas in 1938 there are about 22,000,000 persons and the expense is almost $6,000,000,000. Would you put some explanation in?

Dr. LUBIN. According to the Works Progress Administration there are a number of reasons for the increase after 1934 in expenditure for relief and Work programs per person aided.

For one thing, the comparison should be with the average number aided throughout 1934 rather than the peak figure of 27,000,000 which you have cited. After the Civil Works Administration was discontinued early in 1934, the number aided fell off substantially.

Secondly, the relief problem was not being met on an adequate basis in the early years of the period, in terms of the number of needy families aided, or the amount of assistance they received. Direct relief was provided on a budgetary deficiency basis in 1934, while employees on the present works program are paid standard monthly wages for the work they perform.

Many families are now receiving more adequate aid under the public assistance programs of the Social Security Board than they received under the direct relief program in 1934.

Also these data include not only Federal expenditures but State and local expenditures as well, and the States and localities have greatly

[1] Exhibit No. 49, supra, p. 67.
[2] Exhibit No. 51, supra, p. 70.
[3] Ibid.
[4] Exhibit No. 14, supra, p. 21.
[5] Exhibits Nos. 49 and 50, supra, pp. 67 and 69.

increased their participation in all the programs for assisting destitute workers.

Senator KING. The fact is they are paying some of them very much more than they did a short time ago on the ground they are experts or, well, various other reasons assigned or unassigned.

The CHAIRMAN. Now, then, Doctor, if I may call your attention to this other chart,[1] I was impressed by your discussion of the chart entitled "Persons employed by the Federal Government and on Works programs,"[2] and then it reminded me of this chart [1] which you discussed this morning, which shows in terms of the entire monthly income payments the proportion which Government expenditures for income payments under relief and otherwise bears to the total amount of income payments. Do you think it would be a reasonable thing to say, upon the basis of these two charts, that they indicate the supreme importance of so stimulating the income payments by private industry, to take up this slack if we are ever going to solve the question of unemployment?

Dr. LUBIN. I think it is very significant that although the amount of Federal expenditures for relief is increasing, it is still small as compared to the total income of private industry. In other words, the percentage of the total national income payments that went to direct relief, payments to veterans and things of that sort, has been relatively small.

The CHAIRMAN. In other words, all that the Federal Government has expended by way of work relief and P. W. A. and payments to veterans, is actually but a drop in the bucket compared with the national income which we need to restore even the 1929 degree of prosperity.

Senator KING. Isn't it a fact that if you should make a proper appraisal of the amount which is coming out of the Federal Treasury directly for relief through the P. W. A. and the Works Progress and through cities and counties and States, and then further appropriations by the Federal Government for the Army and for the Navy and for increased shipyards, and what not, it would be a very large part of the national income?

Dr. LUBIN. Well, of course "large" is a relative term. It is a significant amount, very definitely. The question is, not only how significant is it in terms of dollars but also how significant is it in creating jobs, and profits and dividends. That to me is the measure of its real significance. If it has a stimulating effect and helps keep things going, then I would say that the amount isn't so very great, if, as a result of every dollar you spend, you increase the income of our workers two or three times. I think that is the only criterion we can use in judging whether or not these expenditures should be made.

Senator KING. If you adopt a policy under the terms of which 30 to 40 percent of the gross income of all the people of the United States is taken by the Government, to be expended as Congress and the Executive may determine, is it not a fact—I don't want to be argumentative—that you are drying up the fountains of private industry which would give employment to a larger number of people?

[1] Exhibit No. 14, supra, p. 21.
[2] Exhibit No. 51, supra, p. 70.

Dr. LUBIN. I will say this: If by spending 30 billion dollars you increase the national income by 40 billions, you've made a swell investment.

Senator KING. You think by the Federal Government spending 50 billion it would have to take it away from the people?

Dr. LUBIN. I said if by spending 30 billions you could increase the national income by 40, it is a swell investment. In other words, if by spending 30 of Government money you added 40 to the total in the form of wages to workers and profits and dividends, then I would say it is a very good investment. I am not saying to what extent it will result that way, but I do say if it does work that way it is a good investment.

Senator KING. Do I understand you to mean the more the Federal Government takes from the people and spends, the better it is for the people?

Dr. LUBIN. It depends on the conditions. If everybody is working, and such expenditures mean that the Government comes in and competes with private industry for labor and materials, I would say no, but if there are people unemployed and the factories unused and if by spending money the Government can create jobs in those factories so that not only will wages be more plentiful, but profits and dividends larger, I'd say yes.

Senator KING. You are not assuming that the larger the expenditure by the Federal Government, the larger will be the expenditure by entrepreneurs and by those who are engaged in manufacture?

Dr. LUBIN. It depends entirely upon what conditions are under which the expenditures are made, the extent to which you have unemployment, unused capacity, and things of that sort.

Senator KING. We are entering a field of speculation and argument now rather than objective study.

The CHAIRMAN. Dr. Lubin, have you covered all the charts?

Dr. LUBIN. I have covered all the charts and I would like 10 minutes to sum up.

The CHAIRMAN. I was going to suggest that you do that. I was going to ask if you wouldn't in a few moments give your idea of what all of this means in terms of living standards and industrial efficiency and the general outlook for the future.

Dr. LUBIN. I am not going to prophesy, Senator. I am going to leave that to some other member of the committee. But I think the significant thing that must be brought out is, first, that we have reached the stage where our population is not going to keep increasing at a very rapid rate.

Prior to the last decade, we had to keep producing more and more because of the fact we had more and more people to feed and more and more people to house and more and more people to clothe. That in itself was a pressure upon industry, created a market for industry, which is not going to exist 20 years hence. Consequently, we must look for our market, not in a growing population, but in a higher standard of living for the people already here.

Now, what does this mean in terms of employment in our industries? Well, we have already seen that our durable-goods industries are the ones that have to be kept going. The non-durable-goods industries are not our important problem.

The question then arises (referring to chart on "Residential Units Provided for in New Non-Farm Construction")[1] as to what industries we may look to as the stimulants to employment. I think the answer is in housing. You can see from the chart [1] that housing has a tremendous distance to go yet to get anywhere near in line with the total industrial production in the United States.

I think that as you increase the income of our workers, as our factory pay rolls increase, the opportunities for building, that is, selling and renting houses will rise with them. We can not expect the maintenance of the so-called housing boom which may be under way, unless we have some stability in the earnings of our wage earners, who constitute about half of the gainfully occupied in the country. Housing is still a big field that can be developed.

NECESSITY FOR GREATER PRODUCTION

Dr. LUBIN. There are other fields that can be developed, and I would like, Mr. Chairman, to sort of touch on those indirectly. I think the outstanding thing that everybody will accept and agree to is that American industry is geared to large-scale production. Because of that fact, it must depend upon markets that can consume the output of mass-production methods.

American industry cannot profitably maintain itself from the proceeds of sales to that portion of our families that has incomes of more than $5,000. That segment of our population numbers but 794,000 families and constitutes but 2.7 percent of the total families of the Nation. I want to repeat that, if I may: 2.7 percent of families in this country have incomes of $5,000 or more, and American industry, geared to huge mass-production methods, cannot live on those 794,000 families. Nor, indeed, can American industry maintain itself on the sales to the income group that receives $2,500 or more. The families in this group comprise less than 13 percent of all our families and in numbers constitute a population approximately equal to that of the State of New York. In other words, all of the families in the United States put together, who receive $2,500 or more, wouldn't aggregate a population any greater than the State of New York.

It is evident that mass production can't depend upon those families for their existence. Even in the income group of $1,250 and above, we only touch approximately one-half of our families. Fifty-four percent, some 16,000,000, of a total of more than 29,000,000 of our families, fall below the $1,250 income level. In other words, half our market in this country for our industrial output lies in families that earn less than $1,250 a year.

There were approximately 9,500,000 wage-earner families in the United States in 1935 and 1936, and I am taking that period because that was when we asked American families how they were spending their money.

If one asked himself the question: What would happen to American industry if every wage-earner family that was not on relief in that period, and had $1,250 or less a year to spend, had its income increased by about $2.25 a working day or to about $1,500 for each family? In other words, if every one of these families could have that much more to spend each day, what would happen to American industry?

[1] Exhibit No. 22, supra, p. 33.

On the basis of commodities that enter into the family budget, we find the main item to be food. The studies of the Bureau of Labor Statistics show that families with incomes of $1,250 or less spend about 44 percent of their income for food, the actual dollars being $355 out of an average of $800. For the 5,200,000 families that I mentioned, that is, wage-earner families who have not been on relief, whose incomes were $1,250 or less, an increase of approximately $2.25 a day in income would mean a rise in food expenditures of approximately $800,000,000 a year. They would buy that much more food if they had $2.25 or more per day in income.

Based upon our survey of clothing expenditures, the average American wage-earner family that earns $1,250 or less spends approximately $82 a year for clothing. An increase in their income of a little over $2 a day can be expected to raise their expenditures for this item to around $162 a year. In other words, their expenditures for clothing will jump from $82 to $162 a year if their income is increased by a little over $2 a day.

If you took all of the families earning $1,250 or less and you gave each one of them a little over $2 a day, the actual increase in expenditures in a year for clothes would be $416,000,000.

Senator KING. You are giving them no credit for saving any money. You are assuming they are going to spend it all.

Dr. LUBIN. We are going to let them save some, too. What I am saying is this: We have taken families earning $1,250 and less. If their income was raised to $1,500, how would they spend the additional money? Some of it is saved. They will buy more clothes. They will increase their expenditures on food. There are other things on which they won't increase their expenditures.

We could go down the whole list of essentials that constitute the basic items in the standard of living of the American wage-earner families. We can expect a rise of $613,000,000 in expenditures for rent. We can expect a rise of $213,000,000 in their expenditures for fuel, light, and refrigeration. We can expect a rise of $224,000,000, if the incomes increase a little over $2 a day, in household furnishings, equipment and things of that sort.

The expenditures of the American wage-earner family that has an income of $1,250 or less is about $38 a year on transportation, and it is primarily automobile transportation, including repairs. That expenditure would rise to $112 a family if their incomes were increased $2 a day. This means an increase in expenditure on automobiles and other forms of transportation of $385,000,000. Expenditures for recreation, which now take $33 of the average wage-earner family's income, could be expected to rise to $78, with a net increase in annual expenditure for these families, to the suppliers of recreation of approximately $234,000,000 a year.

In the field of medical care, to which approximately $22 is contributed by the average wage-earner family today, one could expect almost a 200-percent increase in expenditures, the amount going to doctors and medicines increasing by $208,000,000.

This briefly gives a rough conception of what industries might be expected to gain from a rise in the national income, which would increase the amounts available to wage-earner families in the $1,250 or less income group by slightly more than $2 a day. It might be worth while to show the probable effect of such an increase in income upon producers of specific items.

An interesting case at point is oranges. The average American age-earner family in the $1,250 or less income group spends 75 cents a year on the average on oranges, the total expenditure for the group being approximately 4 millions. As family incomes increase, it is found that at the $1,500 level the amount expended on organges more than triples, the average being $2.89. With an increase of a little over $2 a day for these families, the amount spent for oranges will increase by $11,000,000 a year.

Producers of cosmetics and toilet preparations can anticipate a rise in sales to such families from $1.57 per family to $4.16, a net increase in their business of approximately $13,500,000 a year. The motion picture industry could look forward to a tripling of admissions sold to this class of our population. With a rise from $4.14 per family to $12.82 per family for movies, this would mean an increase in sale of tickets to movie houses of approximately $45,000,000.

Distributors of silk and rayon dresses could look forward to an increase of $22,000,000, and manufacturers of electric refrigerators could expect an increase of $47,000,000. Automobile distributors could anticipate increased sales aggregating $119,000,000.

The relatively high increase that may be expected for oranges may be attributed to advertising campaigns and to the effectiveness of the spread of dietary knowledge. The two to threefold increase in expenditure for all of these items as family incomes rise from lower to intermediate levels is suggestive of the enormous potentialities of consumption in the United States, while high elasticity of expenditures for automobiles and wearing apparel is particularly apparent. Indeed, a comparison of the groups with incomes averaging around $1,500 with the wage-earning family with income of $2,850 shows the $2,850 wage-earning family spends six times as much on automobiles as the $1,500 family does; more than twice as much for medicine and doctors, more than two and a third times as much for movies, almost three and one-half times as much for men's clothes and silk and rayon dresses; and three times as much on electric refrigerators.

Summarizing what effect an increase of $2.25 a day would have upon American industry, if this amount were made available to families now earning $1,250 or less, the picture would run something like this: They would buy $800,000,000 worth of food more than they buy now; they would increase their purchasing of clothing by $416,000,000; they would increase their purchase of housing or rents by $613,000,000; they would spend $213,000,000 more on fuel, light, and refrigeration; they would spend $385,000,000 more on transportation, automobiles, etc.; they would spend $73,000,000 more on personal care; they would spend $234,000,000 more on recreation; they would spend $208,000,000 more on medical care.

The CHAIRMAN. One of our correspondents wants to know whether they would spend anything more on newspapers.

Dr. LUBIN. As a matter of fact, yes. We have the figures for all reading materials. I haven't them with me here.

Senator KING. What newspapers? [Laughter.]

Dr. LUBIN. I would want to know what paper he represents before I would answer that.

Now it should be borne in mind that these estimates cover the effects of the change of incomes of only a limited number of our population, only 5,200,000 families out of 25,000,000 nonrelief families in

the country, and they do not include any of the 10,000,000 single individuals whose annual income aggregates in excess of 11½ billion dollars.

I bring these things to your attention because this briefly outlines what would happen to American industry if these families had incomes only of $2.25 more a working day. It would have a tremendous effect upon the output of industry and upon employment. I might go a step further and say that if there were moderate increases in the incomes of all families and single individuals receiving less than $2,500, you could reasonably expect that most of our surplus capacity in the United States would disappear, and in many industries our present capacity would run far short of the demands by the population of this country.

Senator KING. The aggregate surplus capacity is about 20 percent, isn't it?

Dr. LUBIN. At the peak, but today it would probably run more than a third.

Senator KING. There has been a great deal of obsolescence since the peak, you know.

Dr. LUBIN. It is notable how suddenly obsolescence disappears when you get orders and you don't have time to put in new machines.

Senator KING. Mr. Ford had this on obsolescence—he scrapped several plants that cost 50 or 60 million dollars, and some of the other plants, smelters, and mills which we have in the West get obsolete just as your clothes get obsolete.

Dr. LUBIN. That is so. I think the important thing, Senator, is that you have that same problem when you consider the fitness of a worker for a job. When business is good and you can make money, an inefficient worker is a good investment; when business is bad and profits are low you want the best possible workers, and even at that it is hard to make money. I think the same is true about obsolescence.

Senator KING. With the new technological development they would lose money.

Dr. LUBIN. In 1929 certain parts of the steel industry that had been shut down since the war and never intended to be opened again got going and made money.

Mr. HENDERSON. I have some figures on obsolescence which I will be glad to introduce at a later time in the hearing.

The CHAIRMAN. This survey which you have just given us is an indication of what might be expected if the salaries or wages paid to the lower-income groups were increased.

Dr. LUBIN. I am talking only about those who have not been on relief.

The CHAIRMAN. What can you say to us with respect to what the trend is as indicated by the figures which you have presented here today? Are we moving toward that increased income for these particular groups or are we not?

Dr. LUBIN. At the present moment we are moving in that direction. In other words, ever since this summer the trend has been toward increasing employment, something approximating a million people have found jobs in industry. Pay rolls are going up. The index of production will touch about 101 this month as compared to 77 this summer. That is a large increase.

How long it is going to continue upwards I don't know and I wouldn't want to forecast. If I might tie up that question with a general conclusion of what I am trying to bring out, I would say this: The problem that we must face is one of economic security, and by economic security I don't mean only for workers; we must have it for the investor and for the farmer. I think that is the first problem we must face. The second problem is one of a rising standard of living. Our standard today, based upon per-capita income figures, shows that we have a considerable distance to go if we are going to get back to the point where the amount of goods and services available for each man, woman, and child in this country is equal to what was available in former years.

To get this economic security and to get this rise in standard of living, I think two things are involved. We must have more and more production. We just have to produce more and more. Of course, production must be balanced so that you won't be overproducing one type of commodity and underproducing another type of commodity.

Second, and equally as important, if not more important, is some equitable distribution of that produced income which will permit us to absorb the products of agriculture and of industry. In other words, we must have a distribution of the national income which will keep moving the goods which we must produce more and more of if we are to have a higher standard of living.

You can't have a higher standard of living unless you produce more and more goods. With fewer goods to go around you can't live as well, taking the Nation as a whole, as when there are more goods. Our national income must go up from $61,000,000,000 this year, to at least $75,000,000,000 if not $80,000,000,000, if our standard of living for the country as a whole, taking our increased population into consideration, is to be as high as it was in 1929. You have more people to feed, cloth, entertain and keep healthy. With our present population, if there were to be available in the country as much goods per capita and as much service as there was in 1929, we would have to increase our national income, as I said, from $61,000,000,000 to something between $75,000,000,000 and $80,000,000,000.

The CHAIRMAN. I have observed, Doctor, that throughout your testimony you have been referring to 1929 as a norm, as it were.

Dr. LUBIN. I would rather not call it a norm. All I can say is that in 1929 we were using more of our labor and productive resources than in any year in history. What I have attempted to do today is show what we have been wasting.

The CHAIRMAN. In 1929 we had reached our highest peak of national income. We had more employment than at any time since. But isn't it a fact that in 1929 there was also a rather severe unemployment problem?

Dr. LUBIN. It is estimated there were about a million eight hundred thousand people unemployed on the average in 1929. That to me is not an unemployment problem.

The CHAIRMAN. But there were that number. How about the incomes of families at that time?

Dr. LUBIN. That is why I say that we must not only produce more and more, but we must also distribute our production in a manner that will permit our families to consume these goods as they come

out of factories, mines, and farms. If you are going to maintain an economic system such as ours with our factories and mines, you will require a labor supply of a million eight hundred thousand on the average to keep going, because no industry operates 52 weeks a year.

The CHAIRMAN. What I am getting at is, would you regard as a scientific economist, the living standard of 1929 as adequate?

Dr. LUBIN. No. The very fact that the machine broke down with the distribution we had then is to me evidence of the fact that distribution of income in 1929 was faulty. Perhaps I can summarize in this way: A more equitable distribution is more than an ethical problem. It is not only a question of having everybody in good health; there is more than that to the problem.

To me it is a problem of keeping the gears of the economic machine constantly in mesh. I don't know any other way of keeping them in mesh than by so distributing our income that it will pull into our homes, through a higher standard of living, the goods, that is, the clothing, food, entertainment, education, and so forth, which our economic machine must turn out at a rate considerably higher than at the present time, even if we were to get back to a standard no higher than that of 1929.

Senator KING. I am in agreement with your statement. We have got to increase materially the productivity of mines, and farms, and our manufacturing institutions. I wanted to call your attention to one statement that I think might need a little clarification. You state that the system broke down in 1929. That is a statement to which all of us would assent. There may come a calamity or catastrophe to a nation where it has a good economic system. There were then combinations of circumstances which tended to produce a halt in our economic progress. For instance, there was the world indebtedness. Another reason, we were losing our export market. Those conditions materially contributed to a halt in our production, and, of course, in the economic development of our country, So I don't think that the system per se broke down, but there were conditions which arose that interrupted its progress.

The CHAIRMAN. In other words, we had a crash but that wasn't a break-down.

Senator KING. Well, I don't know. If you want to know what was one of the principles of the crash, it was the folly of the American people in gambling in the stock market throughout the United States and borrowing some $8,000,000,000 from the banks in order to buy stocks—farmers' and laborers' and shoe shiners' and everybody else's gambling propensities in part were the cause of the crash.

Representative SUMNERS. Dr. Lubin, in order that I may have a little additional information as to this economic picture, in '29 I had the impression that a great deal of our production was finding a market abroad, and I believe we were loaning a good deal of money to the people to buy with who never paid it back.

Dr. LUBIN. We were giving it away.

Senator KING. Two billion dollars each year.

Dr. LUBIN. My own feeling is we would have been better off if we had given it away to our own people rather than have loaned it abroad and never gotten it back.

Representative SUMNERS. That makes it a bit of an abnormal year in a sense. I withdraw that question because I want to hurry along.

Dr. LUBIN. But let us not forget that we had been experiencing a steady upward trend in our production and national income. The year 1929 was abnormal in a sense but if we had kept going at a relative rate of increase——

Representative SUMNERS (interposing). I was going to withdraw the question. There is one thing, though, that I believe while the Doctor is on the stand the members of the committee ought to consider, and that is in the economic picture this expenditure by the Federal Government of money which we are not collecting. We speak of the national income, and we include in that national income houses and all other things which are not liquid. I mean you can't go to the tax collector and give him a house; you have got to, somehow or other, get the money out of all this business to go and give the tax collector. I haven't studied it out; I don't know but that we are spending money that we are expecting the next generation to pay. Is there anything to be suggested as to how we can raise this money and keep a little more economic soundness in the Federal organization or is the increase—I am asking this in all seriousness—of the Federal indebtedness a threat to the economic stability of the country?

Dr. LUBIN. You are asking for a personal opinion. I think our committee is going to have to look into that whole question.

Representative SUMNERS. I withdraw the question. I think so myself.

The CHAIRMAN. Are there any other questions? If there are no other questions, the committee will recess until tomorrow morning at 10:30. Dr. Thorp will appear at that time.

(Whereupon, at 4:10 p. m., a recess was taken until Friday, December 2, 1938, at 10:30 a. m.)

INVESTIGATION OF CONCENTRATION OF ECONOMIC POWER

FRIDAY, DECEMBER 2, 1938

UNITED STATES SENATE,
TEMPORARY NATIONAL ECONOMIC COMMITTEE,
Washington, D. C.

The Temporary National Economic Committee met pursuant to adjournment yesterday, at 10:30 a. m., in the caucus room of the Senate Office Building, Senator Joseph C. O'Mahoney presiding.

Present: Senators O'Mahoney (chairman), King, Borah; Representatives Sumners, Reece, Eicher; Messrs. Lubin, Hinrichs, Douglas, Frank, Patterson, Arnold, Berge, Ferguson, Davis, Oliphant, Peoples, Henderson.

Present also: Directors of Studies Dr. Willard Thorp, Commerce; Mr. Hugh B. Cox, Justice; Mr. Willis J. Ballinger, Federal Trade Commission; Mr. Thomas C. Blaisdell, Securities and Exchange Commission; Mr. J. J. O'Connell, Treasury; Miss Aryness Joy, Labor.

Present also: Senator John G. Townsend, Jr., of Delaware.

The CHAIRMAN. The first witness this morning will be Dr. Willard Thorp, now associated with the Department of Commerce. I will ask Dr. Thorp to take the stand.

Dr. Thorp, for the benefit of the record, will you give us your name, please?

Dr. THORP. Willard L. Thorp.

The CHAIRMAN. What is your background, briefly?

Dr. THORP. I was a member of the research staff of the National Bureau of Economic Research from 1923 to 1933; chief statistician of the New York State Board of Housing, 1925–26; professor of economics at Amherst College, 1926 to 1933; Director of the Bureau of Foreign and Domestic Commerce, 1933–34; member of the Federal Alcohol Control Administration, 1933 to 1935; chairman of the Advisory Council in the N. R. A., 1934–35. Since then I have been Director of Economic Research and Editor of Dun's Review with Dun & Bradstreet Inc., and I am here as adviser of economic studies in the Department of Commerce.

Senator KING. I think he has demonstrated his qualifications.

The CHAIRMAN. Thank you, Dr. Thorp. Dr. Thorp, you may proceed with your statement. Will you be good enough to do so?

TESTIMONY OF WILLARD L. THORP, ADVISER ON ECONOMIC STUDIES IN THE DEPARTMENT OF COMMERCE, WASHINGTON, D. C.

Dr. THORP. Yesterday you heard evidence about the performance of our economic machine. Dr. Lubin reported on the actual flow of goods and services, the total produced, and the differing achievements

of the various parts of the economy. He also discussed the meaning of this record in terms of economic loss for different classes of people.

Now comes the question of what the economic structure is, the machinery through which and by which these processes operate. Such an analysis is basic because that is where economic problems come from. Our failure to maintain the past rate of advance in the standard of living is certainly not due to any lack of management ability, capital, labor, or natural resources. There is no such simple answer.

My task today is to examine the organization and processes of operation of the factors in business enterprises and industries. No analysis would be necessary if this were a simple machine with many like parts. The fact is that it is exceedingly complicated with units varying from the roadside stand run by the farmer's daughter to the giant railway system. Variations appear because of differences in product, process, location, market, habits, and practices which have become the custom in this or that industry or trade.

Furthermore, these basic sources of differences within the structure are continually changing. As we have carried specialization further and further, the amount of dependence of the parts upon each other has increased. Lack of adjustment in individual parts of the economy to changing conditions can therefore affect areas far wider than that of the original difficulty, and may even spoil the rhythm of the whole machine.

The character of the economic structure which I am to describe is continually changing. Advances in technology, for example, may create new industries and destroy long-established ones. The initiative of businessmen, individually and collectively, is itself a constant creator of change, while too much inertia, on the other hand, may also cause a maladjustment. Some situations have sufficient public importance to warrant government intervention of one kind or another. Under forces such as those, our economic pattern has changed greatly in recent years, both within the structure itself and in the relationship of government to industry.

It is of course impossible for me to present a complete picture of our economic machinery. Not only is there the time limitation, but at many points, authoritative information is lacking. Many of the research projects now under way will aid greatly in understanding the nature and location of our economic problems.

It is not my purpose, in describing the economic structure, to offer any judgments. This is a blue print, only partially developed, of a very complicated machine. The plan of presentation moves from the specific to the general. That means starting with individual business enterprises, considering them in terms of their legal form of organization, their relative size, and their functional characteristics. Next will follow a discussion of industries and trades, their different patterns and problems, the extent of concentration and other alternative forms of collective action, and interindustry relationships. Finally, we shall consider various broad factors which may also create problems of adjustment.

THE BUSINESS POPULATION

Dr. THORP. So we start with the individual business enterprise, the basic unit in the system. Dr. Lubin started yesterday with the record of population. I want to start with the record of business population.

His problem was much easier because when you are counting people, you have no question about what unit to use, but when you are trying to count business enterprises you have an entirely different problem.

I could perfectly well and honestly say that there are 500,000 business enterprises in the country, or I could say there are 30,000,000 business enterprises in the country. If I said 500,000, I would be considering the corporations, the active corporations which are units established specifically for business purposes.

If I said 30,000,000, I would be regarding each family in the United States as a business unit, and, of course, if one wanted to compare the development of economic activity today with the development 50 years ago, he would have to take the family into account because the family 50 years ago was the producer of bread, for example, and of clothing and of many things which now have been transferred into what we more normally think of as the business system.

We can find many different possible definitions in between; for instance, we could limit it to families which had employees. There are about 2,000,000 families which have domestic servants, so they in a sense are perhaps more properly business units than the others.

There are 700,000 individual professional persons, lawyers, doctors, dentists, and people of that sort. Shall we regard them as units or not? Even if we arrive at some clear-cut definition we still have a number of problems that remain. Take, for example, the field of construction; in construction a large number of the operators move in and out; one month the man will be doing work on a subcontract in which he is the businessman, the next month he will be working as an employed carpenter under some other contractor, so that you have a continual shift back and forth of the business population.

Or, another question, What shall we do about subsidiaries? They are separate corporations. Are they to be regarded as separate members of the business population or not?

Well, I am sorry to say that there are no Government figures available with regard to the number of business enterprises. Our censuses, as for example, the census of manufactures, are taken on the basis of plants—rather the term they use is "establishments"—and not in terms of enterprises or companies. And so in order to give you something of a consistent picture I will have to present a record compiled by Dun & Bradstreet, United States Business Population, over a period of years. This first chart is on United States business population.

(The chart referred to was marked "Exhibit No. 52" and appears on p. 84. The statistical data on which this chart is based are included in the appendix on p. 227.)

Dr. THORP. The line which I want you to look at for the moment is this top line, the total number of listed concerns. That includes the enterprises which would ordinarily be thought of as coming in the fields of mining, manufacturing, wholesale trade, retail trade, and most of the service industries. It does not include financial organizations, railroads, professional persons, or farmers. It includes utilities, but the utilities constitute a relatively small number of enterprises. Of course we have some 6,000,000 farmers, or farms, and if one included them they would dominate our picture of business enterprises.

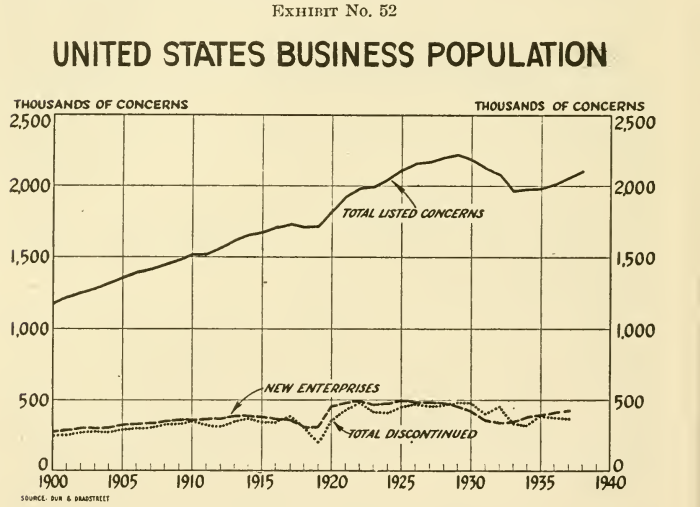
The basis of this chart is sufficiently consistent for the period for our purposes. The country has been covered with about the same degree of uniformity. It is possible that in any given year there may be some minor errors, but the chances are that the errors are fairly constant, so that the picture of what has happened to our business population over time is, I think, an accurate one.

One other point perhaps I should add as it occurs to me, and that is that an enterprise such as a chain-store system would count as one enterprise. These are business units, they are not operating units.

BUSINESS POPULATION GROWTH

Dr. THORP. If we go back to 1900, you notice that there are about 1,200,000 enterprises. There is a steady increase in the business population, halted temporarily in 1919, but rising to a peak in 1929 when there were 2,213,000 enterprises in this list.

EXHIBIT No. 52



From 1929 there is a drop of about a quarter of a million in the business population, and then the advance is resumed. The latest figure, which is July 1938, is 2,102,000—all these figures for each year are for July.

Senator KING. Will you permit a question? There are more than 1,300,000 of small shopkeepers, storekeepers in the country. Have you included those in that?

Dr. THORP. Yes. As a matter of fact, they are the bulk of this picture. Most of these enterprises are small and in the retail trade.

The CHAIRMAN. This includes both corporate and uncorporate?

Dr. THORP. Yes. This includes all enterprises regardless of the form of organization.

Representative SUMNERS. Do you have the figures which would influence that line? If you had those—I am not asking my question

properly. The chain-store development has added a great many units under one organization. If they were listed as separate business organizations what effect do you think it would have on the line of your chart, after about 1925?

Dr. THORP. In 1929 it would increase the total number by an additional figure which is around 145,000. The 1935 figure is 127,000. In other words chain stores according to the census of 1935 had 125,000 stores. So that if you added these units it would increase the line by about that number. Of course, that would be a steady increase over the period.

I might point out that the increase in the number of concerns since 1933 has one important factor, and that is the opening of many new liquor stores. There are about 2,800 alcohol producing enterprises, about 10,000 wholesalers, about 70,000 drinking places, and 8,000 beer and liquor stores. Of course, we don't know how many of those wholesalers, for example, are wholesalers who already existed as wholesalers of groceries and have added alcohol distribution to their function. We have these figures because they are required under Federal statute to have a license.

So somewhere between 20,000 and 90,000 of this increase since 1933 is attributed to the increase as a result of the repeal.

Senator KING. I suppose it takes into account the fact that there are nearly 18 new industries and businesses developed this past year.

Dr. THORP. Yes; all the way through, of course, that same thing has been happening. We have had new industries that have come into this picture, but the situation mentioned above is rather unusual. I don't believe any other industry ever came into existence, or shall we say was reincarnated quite so rapidly as that particular one.

Representative SUMNERS. You had a little body to start with. [Laughter.]

Dr. THORP. One other thing that is interesting to keep in mind in looking at this picture is the fact that this rise from 1900 to 1930, at any rate, was more rapid than the rise in population so that, whereas in 1900 there were about 65 people for every business enterprise, by 1930 we had 56 people for every business enterprise.

One aspect of this record that is particularly interesting——

Representative SUMNERS (interposing). Dr. Thorp, would you make some explanation, if there is any explanation in your judgment, as to the decrease in the number of persons per enterprise during that period of increase?

Dr. THORP. I think the decrease in—or perhaps we should put it, the more rapid increase in the number of enterprises than in the population is probably due to certain new activities which have come in. A very large part of it is probably attributable to the automobile industry, and especially the development of filling stations. Then we have a good many specialized shops which never existed before, arising out of electric appliances and things of that kind.

Mr. OLIPHANT. Over how long a period did that relative increase take place?

Dr. THORP. From 1900 to 1930 this increase in business population shows a straight-line trend. The increase in personal population was flattening out, so it may be, if one took 1900 to 1910, they would be more closely together. Of course, during the period since 1930 it should be pointed out that personal population has kept on increasing while the business population is somewhat lower.

Representative SUMNERS. Doctor, there is one point in there that seems to me to have some importance, and that is the figures which you have given pursuing the relative decrease in number of persons connected with individual businesses. Would you account for that in the reduction of growing businesses or the relatively larger number of smaller businesses established in that period?

Dr. THORP. I don't believe I explained those figures clearly to you, because that is not a figure of the number of persons attached to a given enterprise, but a comparison of the number of enterprises with the total population in the country.

Representative SUMNERS. Oh, I beg your pardon; I didn't get the figures; I am sorry.

BUSINESS BIRTHS AND DEATHS

Dr. THORP. Now, I should like to call your attention to these two lines at the bottom of the chart, because in the process of keeping track of this population, it is possible to see how many new enterprises are formed and how many disappear from the record each year. According to the latest figures, those for 1937, 400,000 new enterprises were opened, and 351,000 discontinued their operation.

That means that for each working day in this country, 1,300 new enterprises open their doors, and 1,150 disappear. Of course those are, as you all know, very small enterprises, and very largely in the retail trade, but I do want to point out this extraordinary turn-over which takes place in the business population; as one follows it through the period of time each year about one-fifth of the business population disappears, but is replaced by an even larger number.

You will notice that except for one year, in 1917 and for the period 1930 to '33, we have had more new enterprises than we have had disappearing enterprises.

Senator KING. Did some of those disappearing enterprises merge with the new enterprises, or were they amalgamations?

Dr. THORP. The problem of deciding what is a new enterprise is an extremely interesting one. For instance, suppose that a partnership was in existence and one partner dropped out so that a new partnership was formed, is that or is it not a new enterprise? That is like the old logical problem of a new blade in a knife, is it a new knife or not?

For this purpose, an enterprise is not regarded as a new enterprise if it changes its name or it changes its location within the community, but this does include changes in the form of organization. For instance, when a partnership is incorporated, it is counted as a new enterprise. And it is really a new enterprise for certain purposes. For example, for purposes of taxation, it is shifted from one type of tax to another, or for the purpose of the extension of credit, its responsibility as a debtor is different when it becomes a corporation.

Senator KING. Have you any figures indicating the number of those new organizations to which you have referred, whether they are partnerships or corporations?

Dr. THORP. I have those and plan to introduce them, Senator. But one thing about this, a rough estimate which I have made is that about two-fifths of these cases of new enterprises and discontinued enterprises represent mere replacements of one form or another. Mr.

Jones has sold out to Mr. Smith and Mr. Smith carries on the same enterprise.

The CHAIRMAN. Suppose you had a line on that chart which indicated the number of failures in each of these years. How different would it be from the line showing the discontinuances?

Dr. THORP. I can only answer that in terms of individual groups. In manufacturing, about 20 enterprises discontinue for every one case that disappears through court actions by the use of the bankruptcy procedure. In retailing, 45 cases close for every one which uses bankruptcy. In other words, most of these are cases where the doors are closed, presumably the bills are paid or they are not large enough to concern anyone, and there is no legal problem involved.

Senator KING. Voluntary liquidation.

Dr. THORP. They are voluntary liquidations.

One other thing is important. The bankruptcies show much wider changes from year to year. You see even here in our worst year, 1932, we had something like 300,000 new enterprises starting, but the number of bankruptcies in that year was almost at an unprecedented peak.

SURVIVAL OF NEW ENTERPRISES

Dr. THORP. I should like to call your attention now to this chart. This is introduced as an illustration. It happens to introduce some evidence on a subject about which our knowledge is rather limited and on which further studies may modify the exact figures.

This is a chart entitled, "Length of survival of business concerns, Poughkeepsie, N. Y., 1843–1926," and it is a study of the changes in business in Poughkeepsie from 1843 to 1926. In this case, changes in the form of ownership were not included.

(The chart referred to was marked "Exhibit No. 53" and appears on this page.)

EXHIBIT No. 53

LENGTH OF SURVIVAL OF BUSINESS CONCERNS POUGHKEEPSIE, N.Y. 1843-1926

NOT COUNTING CHANGES IN PROPRIETORSHIP

KIND OF BUSINESS	LENGTH OF SURVIVAL PERCENTAGE OF CONCERNS		
	OVER 3 YEARS	OVER 10 YEARS	OVER 20 YEARS
MANUFACTURING	53.1	25.3	12.6
WHOLESALE	62.4	31.2	16.7
RETAIL	46.8	21.8	9.9
CRAFT	44.9	20.9	9.2
SERVICE	44.9	18.8	8.1
TOTAL	46.9	21.4	9.7

SOURCE: R.G. AND A.R. HUTCHINSON AND MABLE NEWCOMER

Dr. THORP. You will notice, of the enterprises which started in the manufacturing field, 53 out of each 100 lasted over 3 years; 25 out of each 100 lasted 10 years; and 12.6 out of each 100 lasted 20 years.

Wholesale concerns showed a better record of survival. In retail trade, on the other hand, less than half survived 3 years; less than 22 percent, more than 10 years; and less than 10 percent, more than 20 years.

The crafts in this case, including such groups as barbers and tailors, showed even a lower percentage of survival, and the service industries, restaurants and such, also showed a relatively low survival. Taking all types of business, 46.9 percent lasted more than 3 years; 21.4 per cent, more than 10 years; and 9.7 percent, 20 years or more.

I might say that similar studies have been made not covering quite so wide a field for other areas. The McGarry study for Buffalo and the Boer study for Pittsburgh both show a much higher rate of mortality than is shown here. So I think that if anything these figures for Poughkeepsie, which is probably a relatively stable community, at least economically speaking, would be a conservative picture of mortality.

Dr. LUBIN. Mr. Thorp, in essence this means that more than one out of two firms that started in that city died within 3 years.

Dr. THORP. That is correct.

Senator KING. Is that a manufacturing center or largely dependent upon agricultural surroundings?

Dr. THORP. It is a fairly diversified center. It has some manufacturing industries. I should say, if anything, it has more than the average for a community of its size. Its population is about 40,000.

The CHAIRMAN. But I don't regard it as typical of the country at large.

Dr. THORP. I don't know any community that is typical of the country at large except Middletown. I do regard this chart as typical, and it perhaps shows a longer survival than would be true for the country at large. There are studies that show, for example, that in certain communities in the survival of grocery stores only half of the grocery stores will survive 1 year. Our records at Dun & Bradstreet show that in Los Angeles for example there is a turn-over in total business enterprises of about 100 percent per year.

The CHAIRMAN. This chart in other words presents an unusually good record of survival.

Dr. THORP. Yes, sir; I think this is probably an unusually good record of survival.

FREEDOM OF BUSINESS OPPORTUNITY

Dr. THORP. This raises a problem that I would like to discuss briefly for a moment before we come to our next main topic. This evidence certainly shows that there is in the country a continual flow of enthusiastic and hopeful individuals starting out into business; that from the point of view of freedom of opportunity this is a demonstration of the fact that at least 400,000 people feel that they have an opportunity in the business world, and they start out each year.

The record also shows that in most cases they were somewhat too optimistic, that when their working capital and all the working capital

available from all their relatives is exhausted, the doors are shut and and they return to some other kind of occupation.

I don't think it would be fair to leave the picture there. At the other extreme there are certain situations in which it is virtually impossible for a new enterprise to appear. For example, the natural resources required in many industries are now largely held by existing enterprises. We haven't any completed studies on the holding of reserves, but I think for our purposes it is sufficient to indicate that in certain types of industries it would be very difficult to enter because existing reserves are already generally held.

In other cases, patent situations may be an effective bar to entering a particular type of business activity.

Then in the third case there are many situations where outlets are controlled, or there has been built up such a consumer acceptance by existing enterprises that it is difficult, at least, for a new enterprise to break into the market.

I am not saying that it can't be done, but as against a product which has existed for many years, which is vigorous in its advertising, which is sold throughout the country and widely known, obviously it is difficult for a new enterprise, particularly if it is producing virtually an identical commodity, to enter into that activity.

The CHAIRMAN. In this sense, the phrase "new enterprise" refers solely to a new concern dealing in an old industry or an old activity. You don't mean to indicate that there is any obstacle to the starting of an industry or a business which has never been undertaken before?

Dr. THORP. No; I have no intention of indicating that, although I do think that, to the degree to which new enterprises and new industries may grow up on the basis of technological development, patent controls may tend to limit the number of people who can, at least for a period of time, participate in the development of that new industry. Now, in between these two groups——

Mr. OLIPHANT (interposing). Looking over a period of time, do you notice any difference in that mortality rate of failures? Take, for instance, the retail grocery outlet. Is there any difference in the mortality rate with the development of chain stores?

Dr. THORP. On the basis of the Poughkeepsie record, which was broken down into three 30-year periods of time, there was a different rate. The rate of survival was better in the period 1874–1903 than it was in the first 30-year period (1844–73) or in the latest period (1904–33). These comparisons suggest that the different rates of survival are related in considerable measure to local changes in population growth, changes in business conditions, etc.

The authors of this study state that the length of life of grocery stores has apparently not been reduced by chain store competition.

Mr. OLIPHANT. Suppose we concentrate on the retail field for a moment. Have there been studies of the mortality rate in the retail field?

Dr. THORP. There are studies for individual communities. The complication about that is that the mortality rate is very largely a function of the birth rate. The main part of deaths in any year depends upon how many businesses were started in that year or the year before, or the year before that.

Mr. OLIPHANT. Is the converse equally true?

Dr. THORP. I suppose the converse is partially true. The difficulty seems to be that people decide to go into business and persist in that, and regardless of whether it is 1933 or what year it is, they start in whenever they feel ready to do so.

Mr. OLIPHANT. Generally speaking, then you would say we have no figures on whether or not the chains——

Dr. THORP (interposing). I would say we have no satisfactory figures. Some evidence I am going to present a little later on trends in retail outlets will have some bearing, I think, on the problem.

Mr. OLIPHANT. That may answer my question.

LARGE CAPITAL REQUIREMENTS A BARRIER

Dr. THORP. I have spoken of what I might describe as the two extremes in freedom of opportunity. Another situation that is becoming increasingly important involves the cases which are controlled chiefly by the importance of research and the costliness of development. This sort of situation necessarily places the development in the hands of those who can command capital. In many lines the old and relatively successful firm is able to add products and processes where a newcomer in the field would find it extremely difficult if not impossible to obtain the large sums of capital which are required. This restricts certain types of opportunities, by and large, to the larger enterprises.

For example, the Tariff Commission records state that an average blast furnace costs $2,500,000 to construct, that in 1937 three continuous mills for hot-rolled products were completed, costing more than $20,000,000 each.

For further illustrations one merely needs to turn to current business reports. For example, consider just the synthetic textile field. The Industrial Rayon Corporation had a new plant with a new continuous spinning process, estimated cost, $11,000,000. Of course, particularly exciting is the announcement of the Du Pont Co. of its new product, Nylon, described as an organic textile fiber, prepared from raw material from the mineral kingdom—made of coal, water, air, and other substances. They announce a projected plant expenditure of $8,000,000. This, of course, does not include the millions which must have gone into research in past years.

Almost simultaneously the Celanese Corporation has announced a project for spending $10,000,000 on a new plant to produce an entirely new synthetic yarn.

These three illustrations I think serve to point out the fact that in cases where large sums of capital are required, where research over a period of time is required, our present pattern frequently—in fact, usually—is for an established enterprise in the field to be able to make the type of expansion that is called for.

Senator KING. You would include in that, would you not, the mechanisms required for the production of ores, some of the great smelters and ore-reducing plants costing several millions of dollars, so a small mining man would be unable to build the necessary plant for the reduction of his ores?

Dr. THORP. Our mining and metal treatment industries are among our industries that require large sums of capital.

Representative SUMNERS. Doctor, are you going to discuss anywhere the question as to whether or not, in the public economy, it may be possible for a people to advance their mechanical and scientific developments by patent, and so forth, more rapidly than they can take care of the consequences of such development and really bring about a battle between machinery and human beings?

Dr. THORP. I think that is a very important problem, but my own feeling is that it is so important that we will not have time to discuss it today. The whole problem of the effect of patents on our economy is a tremendous one. I am going to introduce some evidence about the degree to which patents are issued and in general the part that technology plays but I think it calls for more elaborate discussion than I can give as to its social significance.

Senator KING. Couldn't you state the generalization that the mechanization to which we have been subjected during the past few years has increased jobs to a larger extent than it has put men out of employment? For instance, the automobile industry has destroyed, perhaps, the old wagon and some of the means of transportation of earlier days, but it has given employment to millions of people in direct employment, and then in the production of gasoline and its consumption through the various filling stations.

Dr. THORP. I think the problem about the absorption of the technologically unemployed depends on the length of time you are going to use for a measure. For example, over the last hundred years it would be difficult to demonstrate technological unemployment, because in that case there would be no employed. Certainly the displacement by machinery has far exceeded the total population over a period of that length.

On the other hand, over as short a time as the last half dozen years, in which workers have not been absorbed readily, it is perfectly conceivable that any technological advances, unless they are very quickly reflected in prices, may temporarily result in increased unemployment.

Representative REECE. Doctor, do you think the chart to which you have just referred has any significance in our competitive system, or the degree to which our competitive system might be interfered with by certain practices which have grown up?

Dr. THORP. I am not sure that I get the exact focus of your question, but it suggests at least two things to me that I should like to add to this discussion. The first is that inasmuch as a competitive system is supposed to adjust itself by the entrance and exit of firms, one could perhaps make the simple conclusion that this was an excellent demonstration of the competitive system at work.

However, one would need to make further studies to determine whether it was the efficient concerns, the desirable concerns, which survived or not before one could tell whether it was working efficiently.

I might say that this problem has become sufficiently disturbing in some industries and areas that there are beginning to appear in certain States forms of State control which endeavor to deal with it. For example, Wisconsin now has a requirement of automobile dealers that they must obtain a certificate from the State government before they can engage in that occupation—a definite attempt, you see, to limit the turn-over and control that particular industry.

THE BASIC DILEMMA

Representative SUMNERS. Doctor, do you think it is valuable to try to protect a man against the chance of going broke?

Dr. THORP. I think that is one of our basic dilemmas. Oftentimes one can visualize a greater efficiency at the moment if you could plan the situation, but the very meaning of planning is that the individual is no longer left as free as he was before.

This freedom of opportunity certainly does mean that people are left free to lose their own and their mother-in-law's savings if they so desire.

Senator BORAH. The public is concerned about how he loses it, whether somebody forces him to lose it by improper practice.

Dr. THORP. That is right. There is a social problem that is involved here which requires a great deal more knowledge than we now have as to why he loses it.

Our evidence is not very good, and it is very difficult to secure such evidence because usually the case is a composite of many factors. Whether it is the individual's own incompetence, or the fact that this wasn't a really good business opportunity, or whether it is the behavior of his competitors, or perhaps his creditors have been too hard on him—one finds so many factors mixed up that from the point of view of analysis, it is not a simple problem, and we don't have enough detailed information to know the answers in any convincing way as to why most people are not able to survive longer.

The CHAIRMAN. Of course, you do know that most of these factors which you just mentioned are generally operative.

Dr. THORP. That is right. We can list a lot of factors, that is true.

The CHAIRMAN. With some factors no provisions can be made by the public. We can't make provision against the incompetence of any particular individual.

Dr. THORP. I am not so sure. After all, we try to do that through our educational system.

The CHAIRMAN. That is merely training competence. If the competence isn't there in the first place, the education won't bring it about.

Senator BORAH. If we would take care of those where we know how they were put out of business, we would do a very good job.

Senator KING. Hope is the mainspring of many of these business enterprises, isn't it? That is, a man has hopes he will succeed, and enters into a business enterprise which is foredoomed to failure, based upon his optimistic attitude.

Senator BORAH. He also has hopes that the Government will enact laws which will enable him to live an honest life himself and make the other fellows do the same.

Senator KING. I think that self-government is very important in a democratic government.

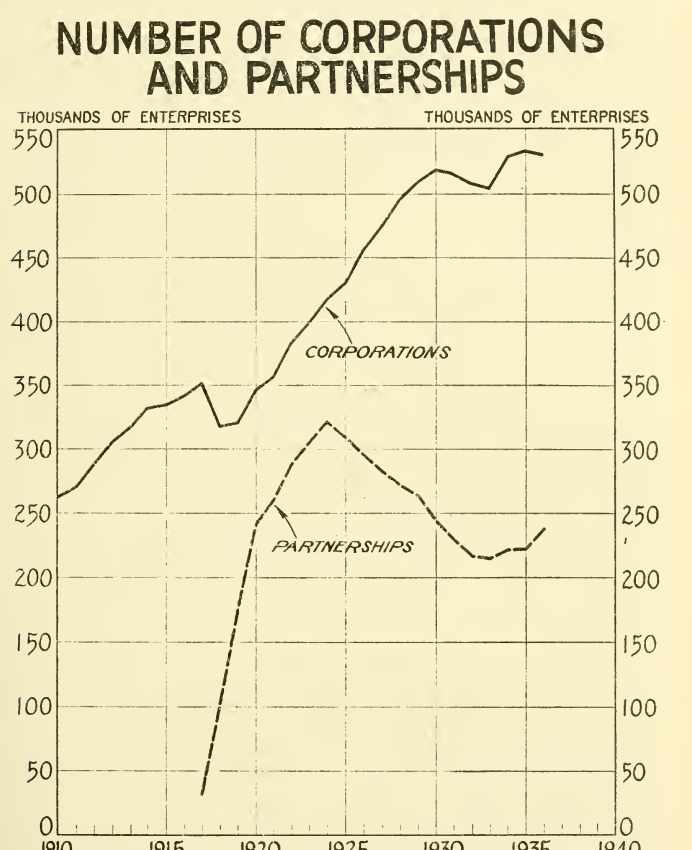
Senator BORAH. It isn't a democratic government when half a dozen men run it.

Senator KING. I haven't discovered that, except in Germany and in Russia, and I don't want totalitarian government introduced here.

RISE OF CORPORATIONS

Dr. THORP. I want to turn now to the different characteristics of these enterprises, and first I want to look at them from the point of view of their legal form.

EXHIBIT No. 54



NOTE.—Data for this chart are based on the number of tax returns filed with the Bureau of Internal Revenue. The year to year variations are not strictly comparable in all instances, because of changes in the methods of reporting. Data for partnerships in 1917 represent only those partnerships subject to war excess-profits tax.

I introduce a chart on the number of corporations and partnerships. (The chart referred to was marked "Exhibit No. 54" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 228.)

Dr. THORP. This is based on the records of the Bureau of Internal Revenue. Perhaps I should explain one or two things about this chart. In the first place, it should be noted that corporations are included, regardless of whether they are subsidiaries or not, since 1934; that in earlier years there were consolidated returns, and, therefore, in 1934 what had been 7,000 returns were replaced by 27,000 returns. That is a modification in the figures.

Then I should like to point out the fact that of these corporations, about 10 percent are inactive. They have no income whatsoever in the year. That is a fairly constant figure throughout the whole period of time—10 or 11 percent.

With regard to the partnership figure, this is an interesting illustration of where perfect statistics may be misleading. These are the records as the Bureau of Internal Revenue has them of the partnerships, but in this earlier period only partnerships with incomes of $6,000 had to file, and I——

Senator KING (interposing). Was that gross income or net income? You said $6,000.

Dr. THORP. They are domestic partnerships having a net income of $6,000 or more without deducting salaries or interest paid to partners.

In the partnership chart probably one should disregard the figures prior to this point, 1924. This reflects changes in the system under which the records were collected rather than changes in the trend of partnerships.

Now, as to this growth of corporations, we reach a point of somewhere around 550,000 corporations at the present time, since 1910—from 1910 to 1930, I should say, corporations have increased by 90 percent, while the number of firms which I showed you before increased about 45 percent. The number of corporations has increased just about twice as fast as our business population.

It is important to remember that the corporation population is in part affected by the tax structure and changes in the tax structure. Under one revenue act it may be somewhat more desirable to be a partnership than a corporation at a certain income level, and vice versa.

Senator KING. Of the 500,000, 139-odd thousand showed a deficit, did they not?

Dr. THORP. That is substantially correct. Over a period of years one finds some years in which more corporations made a profit than have a deficit, and other years, particularly during the depression, in which a high proportion of them show a deficit.

The CHAIRMAN. Dr. Thorp, referring to exhibit No. 54, to what do you attribute the very rapid increase in the number of partnerships in the period from 1917 to 1920?

Dr. THORP. This is a statistical misconception, Senator. These are the records of partnerships from the Treasury Department, but the conditions of partnerships reporting were so different in 1917 than in 1924, that the number of partnerships on their records showed that increase. I do not believe that one can regard that as the picture at all, and perhaps it would have been better if we had not put it on the chart. This should not be taken as a picture of the growth of partnerships.

The CHAIRMAN. The internal revenue law has been changed from time to time during the period covered by this chart, and those changes in the law would necessarily affect the number of returns.

Dr. THORP. That is right. It was not until the middle of the 1920's that one could feel certain that all partnerships were reported.

The CHAIRMAN. So that actually this chart is not to be interpreted as showing any reasonable accuracy with respect to the relation between partnerships and corporations prior to 1920.

Dr. THORP. I should say even prior to 1924.

Mr. OLIPHANT. From 1925 is your partnership line significant?

Dr. THORP. Yes; from 1925 on the partnership line is fairly accurate and shows a decrease in the use of the partnership method at the same time that the number of corporations was increasing.

Mr. OLIPHANT. Did you mean to make any observations on the causes of that decrease in relation to the increase of corporations?

Dr. THORP. I don't believe I have any observations that would be significant.

Senator KING. You would know whether the declining line there was the result of partnership for voluntary liquidation or whether they had merged into corporations.

Dr. THORP. I can introduce a little evidence right here that will perhaps show what has been happening. We made a study at Dun & Bradstreet for the first half of 1936, of 77,000 cases where the ownership changed in an enterprise.

In most of those cases the same legal form was continued; in other words, if the enterprise had been an individual proprietorship the new one was an individual proprietorship with some other individual owner; if it had been a partnership the new one was a partnership.

Nevertheless, as those 77,000 enterprises went through the process of change, this is what happened to the percentage of the total that was incorporated: In manufacturing, 23 percent had been corporations before the change and 38 percent were corporations afterward. In other words, there was a decided movement from proprietorships and partnerships to corporations. In wholesaling it was from 22 percent to 37 percent; in retailing from 7 percent to 8 percent. Of course, in retailing the proprietorship continues to be the dominant type of enterprise.

Senator KING. Each of those organizations continued, though, in one form or another, did it?

Dr. THORP. Yes; each one of those continued in one form or another.

EXTENT OF CORPORATE ACTIVITY

Dr. THORP. In this chart we have endeavored to estimate the importance of corporate activity by branches of industry in 1937, and I must say at once that these are estimates in most cases. We have done the best we can and have built up figures which we hope are fairly accurate. One might misread this chart. I should like to explain that the column entitled "Percent of National Income" is merely there to show how important each of these groups is in the national income. This is not a column indicating what percentage of the national income is done by corporations. This should be read that 8.9 percent of the national income is attributed to agriculture.

(The chart referred to was marked "Exhibit No. 55" and appears on p. 96.)

The CHAIRMAN. Whether noncorporate or corporate.

Dr. Thorp. Whether corporate or noncorporate. It gives one an idea of how important are the various segments of the national income. All manufacturing enterprises, corporate or noncorporate, contribute 24 percent of the national income.

The last column is the significant column. That is the percentage of business done by corporations in each one of these industry groups. The figure for agriculture is 7 percent. In five groups it runs around 90 percent or better—mining, the public utilities, manufacturing, transportation, and communication. In finance, it is 84 percent. In the very important trade group 58 percent of the business is handled by corporations.

Exhibit No. 55

IMPORTANCE OF CORPORATE ACTIVITY BY BRANCHES OF INDUSTRY, 1937

INDUSTRY	PERCENT OF NATIONAL INCOME	PERCENT OF BUSINESS DONE BY CORPORATIONS IN EACH INDUSTRY
AGRICULTURE	8.9	7
MINING	2.1	96
ELECTRIC LIGHT AND POWER AND MANUFACTURED GAS	1.6	100
MANUFACTURING	24.0	92
CONTRACT CONSTRUCTION	2.1	36
TRANSPORTATION	7.3	89
COMMUNICATION	1.3	100
TRADE	12.5	58
FINANCE	9.3	84
GOVERNMENT -*INCLUDING WORK RELIEF WAGES*	13.5	58
SERVICE	11.9	30
MISCELLANEOUS	4.2	33

BUREAU OF FOREIGN AND DOMESTIC COMMERCE

I suppose I need to mention the part of government business that is done by corporations although I don't want to start any discussion about it. I might suggest merely, that we do have the corporate form with regard to cities and many local governments, and even the Federal Government does certain of its work through corporations. A rough attempt to estimate the importance of the corporate form, as far as government is concerned, places the figure at 58 percent.

Senator King. Would you include banking, where they are operating under Federal charters, as Government business, or private?

Dr. Thorp. If you mean the R. F. C. for example, that is included under Government, but of course all corporations in a sense are Government instruments in that they are created by the Government.

Senator King. H. O. L. C. and these other organizations?

Dr. Thorp. They are part of Government in this picture.

Senator KING. T. V. A., and corporations of that character?

Dr. THORP. Yes. Now, if one tries roughly to arrive at something in the form of a total, it is probably somewhere between 60 and 65 percent of the total volume of business in the country which is done by corporations.

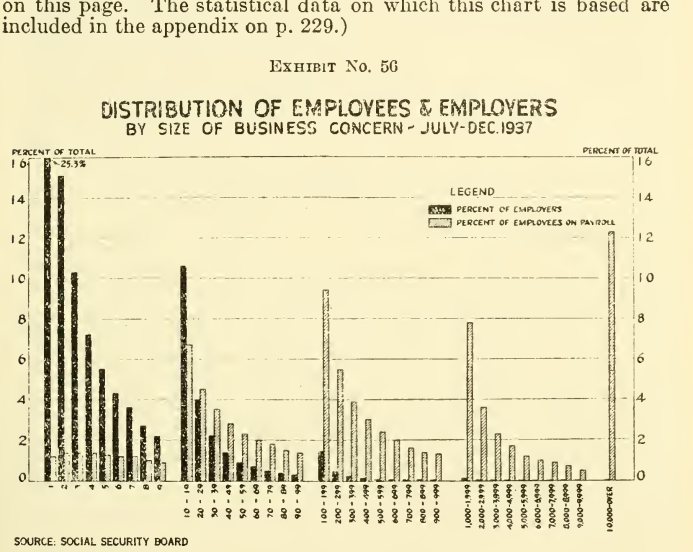
If you drop this Government item and regard only the rest, it makes very little difference. It still would be probably somewhere between 60 and 65 percent of the total activity.

SIZE OF ENTERPRISES MEASURED BY EMPLOYEES

Dr. THORP. The next aspect of business enterprises which I want to discuss is differences with reference to size.

(The chart referred to was marked "Exhibit No. 56" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 229.)

EXHIBIT No. 56



SOURCE: SOCIAL SECURITY BOARD

Dr. THORP. I am afraid I am going to have to ask you to use your imaginations and your understandings to the full to follow this chart. This is a chart entitled "Distribution of Employees and Employers, by Size of Business Concern." The basic data are from reports by employers to the Treasury Department in connection with their payments under the Social Security Act.

Each employer, and for this purpose General Motors or The Great Atlantic & Pacific Tea Co. represents one employer, reported for the last half of 1937 the total number of names which appeared on his pay roll at some time during the 6 months.

It is important to realize, therefore, that these figures are, one might say, somewhat padded all the way through. If, for example, a firm ordinarily had three employees but one of them had dropped

out after 1 month and he had been replaced by another, there would have been four names appearing on the pay roll of that company during the 6 months' period, and therefore in our record here it would appear as a company with four employees.

The only thing one can say is that probably turn-over appears all through the record and we just have to make allowances for it.

This chart covers 1,730,000 employers. It does not include any farmers, railroads, nonprofit public services, etc., nor does it include the enterprises which had no employees; in this last group there are a vast number, both in retail trade and in the professions.

Let us look at the extreme left of this exhibit [1] for the moment. The numbers at the bottom of the chart refer to the number of names reported by the employer. For instance, here we start with the cases which reported one employee. The heavy black bar shows what percent those with one employee were of all employers; the shaded bar next to it shows what percent their employees were of all employees.

The first solid bar indicates that 25 percent of all employers had one employee. Those employers, with three employees or less, constitute almost one-half of all the employing enterprises coming under the Social Security Act. The exact figure is 50.5 percent. They employed 4 percent of the workers, so that one can get from that simple comparison a picture of the degree to which our present economy is a small-scale economy in terms of enterprises.

Senator KING. That would mean that more than 50 percent of all employers employed three or less.

Dr. THORP. Yes.

Representative REECE. It also indicates the degree to which our economy is affected by the welfare of those small employers.

Dr. THORP. I think that is correct.

The CHAIRMAN. What percentage of all employees did you say were employed by these 50.5 percent of employers?

Dr. THORP. It is 50.5 percent who have 4 percent of the employees.

The CHAIRMAN. In other words, enterprises employing 1, 2, or 3 persons, though they constitute slightly more than 50 percent of all employers, employ less than 5 percent of all the employees.

Mr. OLIPHANT. Does that indicate the extent to which the American economy is a small enterprise economy? What is it in total dollar volume of business?

Dr. THORP. It depends on your measure. This is a measure in terms of employees. If you had it in terms of volume of business, the results would be somewhat different. If you had it in terms of assets you would get another set of results.

The CHAIRMAN. Dr. Thorp, suppose you go to the other end of that scale, now, just for the purposes of comparison, and give us the appropriate figure with respect to the percentage of employers employing 7, 8, and 9 persons, and the percentages of employees whom they employed. Do you have that there?

Dr. THORP. Yes, I can give that, but I think we had better not stop with 7, 8, and 9. This exhibit [2] goes on to still other enterprises.

The CHAIRMAN. Oh, yes.

Dr. THORP. In order to get this evidence on the chart, we couldn't continue charting them, 9, 10, 11, 12.

The CHAIRMAN. You will make it much more striking by coming to the other end.

[1] Exhibit No. 56, supra, p. 97.
[2] Ibid.

Dr. THORP. Once one gets to nine the chart shifts and we group the number of employees by tens. One therefore ought to take this whole first group and put it into a single column, as the first column to go with these nine—in other words, 1 to 9, and 10 to 19. If you did that, our black bar would have to go up to 76. The top of the chart is 16, so if you can just visualize where that black bar would go if it went up to 76, you can get this picture.

Representative REECE. Does the number of employees in those small enterprises include the proprietor?

Dr. THORP. No, sir; it does not include the proprietor. These are employees. The enterprises where there is only an employer, for instance, do not appear at all in this record.

Senator KING. It won't include, then, the store conducted by a man and his family.

Dr. THORP. That is right.

Mr. OLIPHANT. Seventy-six percent of the firms employ what percent, when you add the figures?

Dr. THORP. I will have to have the adding machine work on that.

Mr. OLIPHANT. I am sorry; go ahead.

LARGEST ENTERPRISES

Dr. THORP. When one reaches the 100 point on the chart, we then group by hundreds, then concerns are grouped by thousands, and finally we have the cases of the enterprises which reported more than 10,000 per company as having been on their pay rolls during the 6 months' period.

There are 195 enterprises in this last group with 10,000 employees or more. In terms of percentages, that is almost exactly one one-hundredth of 1 percent. However, those 195 enterprises, being our largest employing enterprises, reported 12.3 percent of all the workers.

If one goes through the chart looking at it, comparing two sized lines, it is somewhere in around this point, perhaps about 20 employees, that one notices that the number of employees is beginning to get higher than the number of enterprises in their share of the total. Before you reach that point the taller line is consistently the one representing percentage of employers. After that the taller line is consistently the one representing employees.

Dr. THORP. The figure Mr. Oliphant asked for is 11 percent, the 76 percent of the employers in this 1 to 9 group employed 11 percent of the workers.

Dr. LUBIN. Half the employers employ 4 percent of the workers. Three-fourths of the employers employ how many percent of the workers?

Dr. THORP. Eleven percent.

Dr. LUBIN. And one one-hundredth percent of the employers employ 12 percent; one one-hundredth percent of the employers of the country employ the same number of workers as the other three-fourths do.

Mr. DAVIS. Those small employers are also providing employment for themselves, and had they not done so, they would have had to seek employment somewhere else.

Dr. THORP. They are providing employment for themselves and in many cases for their families, without compensation in a formal sense.

Now we turn to a different measure of size.

Representative REECE. May I ask if you have any figures to indicate the number of people employed by enterprises with a specified net income, say $100,000 annually?

Dr. THORP. We have no such figures. I don't know where we could get them, unless we made some deduction from tax records which would provide the volume of wages paid.

Representative REECE. I saw a statement sometime ago to the effect that about 75 percent of the employees were employed by concerns that had a net income of less than $50,000 a year, and I was wondering if that statement had any basis.

Dr. THORP. I would be glad to see what could be done along that line. I don't have anything that I can introduce. As a matter of fact, this whole area is one on which we are working as hard as we can at the Department of Commerce, hoping we will be able to give you some more amplified and detailed information later. I am suggesting these today merely because they are available measures, and do indicate the scope of the problem at any rate, but I think our measures of it can be greatly improved as we work in the field, and we will keep in mind that particular type of measure that you suggest.

The CHAIRMAN. The committee will stand in recess until 2 o'clock.

(Whereupon, at 11:55 a. m., a recess was taken until 2 p. m. of the same day.)

AFTERNOON SESSION

The committee reconvened at 2 p. m. in the caucus room, Senate Office Building, on the expiration of the recess.

TESTIMONY OF WILLARD L. THORP, ADVISER ON ECONOMIC STUDIES, DEPARTMENT OF COMMERCE, WASHINGTON, D. C.—Resumed

The CHAIRMAN. The meeting will please come to order. Dr. Thorp, will you resume from where you left off this morning?

Dr. THORP. This morning we were talking about the character and behavior of individual enterprises. We had reached the point, after considering their legal structure, of examining them in terms of their size, and at the conclusion of the morning session I was discussing distribution of employees and employers by size of business concern.

MEASURES OF CONCENTRATION BY EMPLOYEES

Dr. THORP. There are one or two other aspects of exhibit No. 56 that I would like to point out especially for the committee. If we start with the largest enterprises and see how far down the line we have to go to get half of all the wage earners in the country, which come under the Social Security Act, we get down to employers having about 250 employees. In other words, the employment picture of the country is one in which half the employees are in enterprises where there are 250 or more employees.

If we carry that on to include three-fourths of all the employees, we get down to employers having about 40 employees——

The CHAIRMAN (interposing). Dr. Thorp, why don't you make now the comparison between 50 percent of the employers and 50 percent of the employees? Balance one against the other.

Dr. THORP. Fifty percent of the employers are in the group having one, two, or three employees. For 50 percent of the employees the dividing point is at 250 employees. In other words, 50 percent of the employees are in plants where 250 or more are employed, so that the two breaking points are three employees or 250 employees.

The CHAIRMAN. What percentage of employers employ 250 persons or more? It will be just a matter of adding up those percentages, and then you will have the complete balance.

Dr. THORP. The number of employers in that group is about 1 percent.

The CHAIRMAN. In other words, nine-tenths of 1 percent of the employers employ 50 percent of the employees, but 50 percent of the employers employ only 4 percent of the employees.

Dr. THORP. That is correct.

Mr. OLIPHANT. That high degree of concentration of employment as indicated by your figures, as indicated by one one-hundredth of 1 percent leads me to ask whether you have any figures to indicate what that trend has been; whether or not the development of that concentration is something that is still proceeding or something that has leveled off.

Dr. THORP. I am sorry to say that I haven't any figures that will show the trend from the point of view of employment. I think this is true, that if one thinks about the past, undoubtedly 50 years ago or 20 years ago there were not these large concerns.

As to what the trend may be as of the last few years, I am not prepared to say, although that is one of the things in which we are very much interested and on which we hope to develop information for you.

Senator KING. In order that my memory may be refreshed, these figures which you are giving now do not include the farmers and their employees.

Dr. THORP. That is correct.

Senator KING. There are more than 6,350,000 farms.

Dr. THORP. Correct.

Senator KING. To say nothing of the renters, amounting to more than one or two million. You do not include them and their employees?

Dr. THORP. I think the renters are included in that six-million-odd farms, Senator.

Senator KING. No, I think not; and it does not include the railroads.

Dr. THORP. It does not include the railroads.

Senator KING. Nor public utilities.

Dr. THORP. It includes public utilities. It does not include nonprofit organizations or public service enterprises.

Senator KING. It doesn't include what might be denominated schools, religious organizations or charitable organizations or hospitals, and organizations of that character.

Dr. THORP. That is right.

Senator KING. And it does not include the several million Federal employees.

Dr. THORP. No; nor does it include any employers who have no employees whatsoever. The total coverage is for 1,730,000 enterprises.

The CHAIRMAN. Does that include most but not all manufacturers?

Dr. THORP. That includes all manufacturers.

Mr. HENDERSON. How many employees does it include?

Dr. THORP. Thirty-seven million wage items, as it is technically called.

Mr. ARNOLD. Why are the railroads and public service enterprises omitted from the charts?

Dr. THORP. These are based on the Social Security records.

Dr. LUBIN. Is it not true, however, that if you did include the railroads, the concentration would be even greater at the right of your chart, because there are relatively few railroads, and something like 700,000 or a million workers?

Dr. THORP. Yes; agriculture would fall in over at this end of the chart, and the railroads would come in at this end of the chart.

Representative REECE. Do you have figures showing the distribution of employees and employers in some year prior to the depression from which we might draw a comparative relationship?

Dr. THORP. We have no such figures.

Representative REECE. Wouldn't that be rather interesting?

Dr. THORP. It would be very interesting. I don't know where one could get them. The best that one could do would be to study individual plants, and that is inaccurate, of course, because you need to know the degree to which plants are grouped into single enterprises.

Representative REECE. I don't know that it would be possible, but were it possible to find from what class of concerns the nine, ten, or eleven million unemployed came from that would be very interesting.

Mr. HENDERSON. That would be almost impossible.

Dr. THORP. I am told that is almost impossible to do.

Representative SUMNERS. Doctor, you made a statement this morning as to the large amounts of capital required to establish some of the new industries. Has any survey been made to determine how much capital it would require to establish a complete unit of production in those fields? I will illustrate what I mean. You mention one $11,000,000 plant. It might be that there would be probably 25 or 30, or maybe many units of production. Do I make myself clear?

Dr. THORP. Yes. It is true that many plants are organized on what might be called a battery basis.

Representative SUMNERS. That is what I am getting at. I don't believe, if I may speak for myself, and I think my colleagues would be interested, that any more valuable statistics could be furnished than those which would be provided with some notion of what the cost is for setting up a complete unit of production. It might be that these big amounts of money that are going into one investment wouldn't necessarily mean, under proper conditions, that a smaller amount might be used for the establishment of a unit that would turn out just as good material.

Dr. THORP. I think that is all very important to consider.

Senator KING. If I understand your inquiry, let me give an illustration and see if this falls within that category. A number of years ago—and you are familiar, I think, with it—it was represented that by the expenditure of considerable money we could develop gold enterprises in Alaska.

Many of those who had gone there, adventurers and those in good faith, had failed because it needed so much for the cyanide process and the flotation process and other technological developments. Finally an organization was formed and they spent $10,000,000, and needed all of that in order to test whether or not you could develop those gold properties. We lost every cent of it. Poor men had tried,

men with limited means, and they had utterly failed. It needed a large expenditure to develop technologically and scientifically, the machinery and the plants and processes essential for the reclaiming of the gold contents and the mineral contents. So many of the mining enterprises need considerable sums. It ll one enterprise.

SIZE OF ENTERPRISE MEASURED BY ASSETS

Dr. THORP. This question of capital leads right into the next measure that I want to introduce in connection with the size of corporations. There are a number of different ways in which one can measure size and the wage earner measure is only one of them.

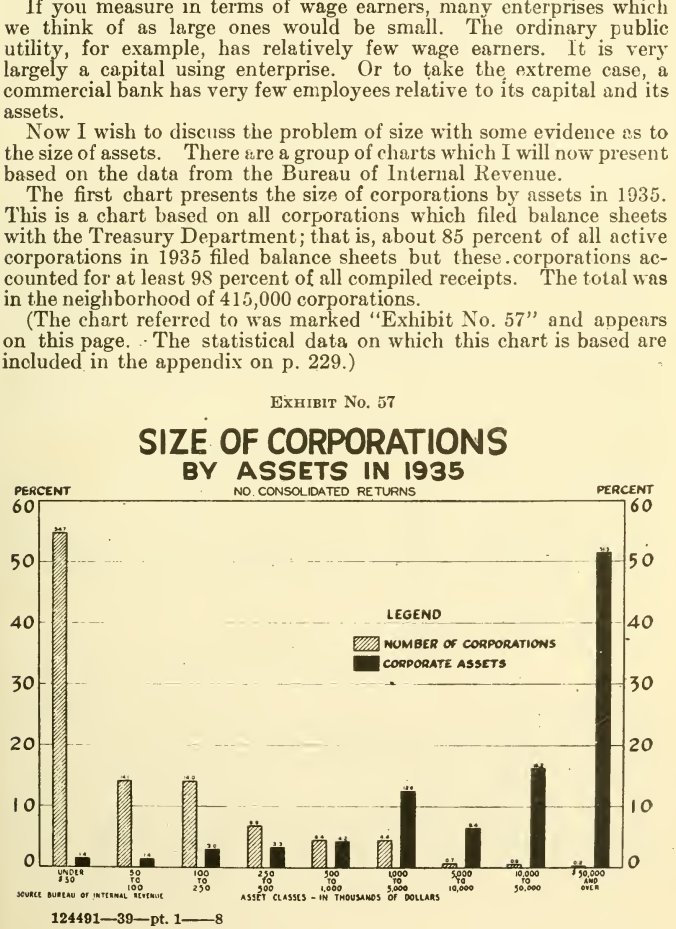
If you measure in terms of wage earners, many enterprises which we think of as large ones would be small. The ordinary public utility, for example, has relatively few wage earners. It is very largely a capital using enterprise. Or to take the extreme case, a commercial bank has very few employees relative to its capital and its assets.

Now I wish to discuss the problem of size with some evidence as to the size of assets. There are a group of charts which I will now present based on the data from the Bureau of Internal Revenue.

The first chart presents the size of corporations by assets in 1935. This is a chart based on all corporations which filed balance sheets with the Treasury Department; that is, about 85 percent of all active corporations in 1935 filed balance sheets but these corporations accounted for at least 98 percent of all compiled receipts. The total was in the neighborhood of 415,000 corporations.

(The chart referred to was marked "Exhibit No. 57" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 229.)

EXHIBIT No. 57



Dr. THORP. Keep in mind that this record is entirely a record of corporations. The Social Security data on wage earners included all types and forms of enterprise.

The figures aren't exactly comparable, but just to remind you, you may remember that this morning I pointed out that between 60 and 65 percent of all our national activity was done by corporations, so that to some extent we have to realize that there are assets which do not appear here.

Of course, those enterprises which are not included would all of them be added primarily to the small enterprise group; that is, there are very few large individual proprietorships or partnerships when measured in terms of assets.

One or two other points with regard to these charts that I should like to point out follow: When we measure in terms of assets, we run into all the difficulties in the field of accounting. We have the problem of valuation of these assets, and the inclusion of depreciation or depletion. The financial figures are therefore subject to the practices of the individual corporation, in preparing its records for filing with the Treasury.

Also, it is important to realize that in 1935 all corporations, except affiliated groups of railroad corporations, filed separate returns, so that subsidiaries will appear in this record as separate corporations. That is a bias entirely in terms of understating the amount of consolidation. To the degree to which it were possible to group these corporations as they economically are grouped, we would then get more concentration.

Now what does the record show? This is perhaps not as significant as the next chart which I am going to give, because this includes financial enterprises, and assets as held by banks, for example, are rather different from assets held by a department store or by a manufacturing enterprise. However, these are all enterprises and here we get a picture of all assets—and remember assets means equipment, plant, stocks of goods on hand and accounts receivable and the like. In 1935, 55 percent of all corporations had assets of less than $50,000 and they had 1.4 percent of the assets of all corporations.

At the other extreme, we get about 780 cases with $50,000,000 of assets and over. That is two-tenths of 1 percent of all corporations, and they had about 52 percent of the assets. A little more than half of the corporations had assets under $50,000 and a little more than half the assets were in the hands of corporations with assets of over $50,000,000. It is a picture in which one finds a smaller percentage of the corporations in each larger asset group and an increasing amount of assets.

EXCLUSION OF FINANCIAL COMPANIES

Dr. THORP. This chart is somewhat deceptive because it includes these financial corporations, and so we have had the same chart prepared excluding all these financial companies.

(The chart referred to was marked "Exhibit No. 58" and appears on p. 105. The statistical data on which this chart is based are included in the appendix on p. 230.)

Dr. THORP. That changes the picture slightly. It changes it to show moderately less concentration because the assets held by financial companies are especially concentrated.

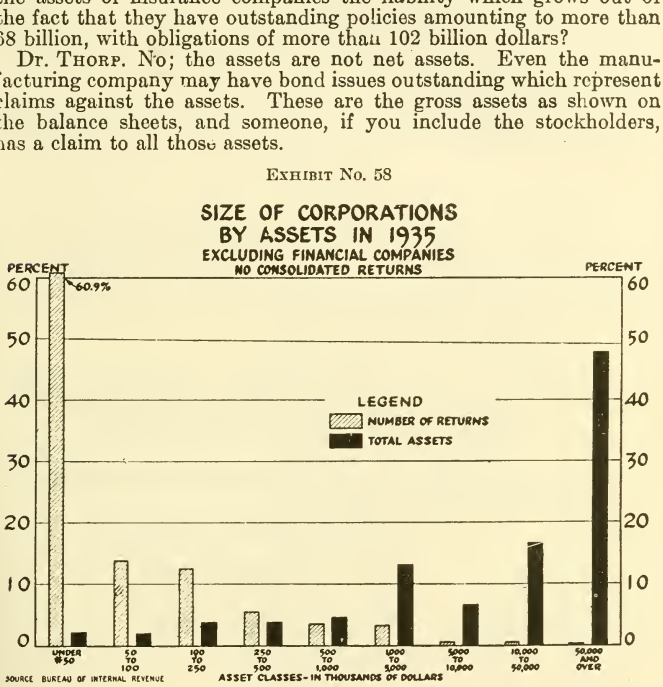
Senator KING. Pardon me, would either of these charts show the insurance companies?

Dr. THORP. Yes; the insurance companies would be in this "Exhibit No. 57." They are included among the financial institutions. They would be excluded from "Exhibit No. 58."

Senator KING. And would you take into account in determining the assets of insurance companies the liability which grows out of the fact that they have outstanding policies amounting to more than 68 billion, with obligations of more than 102 billion dollars?

Dr. THORP. No; the assets are not net assets. Even the manufacturing company may have bond issues outstanding which represent claims against the assets. These are the gross assets as shown on the balance sheets, and someone, if you include the stockholders, has a claim to all those assets.

EXHIBIT No. 58



Senator KING. Of course, there are stockholders in all those corporations, more than 18,000,000 are there not?

Dr. THORP. I don't know the figure.

Senator KING. That is what Berle and Means and other statisticians estimate.

Mr. DAVIS. May I ask a question? Referring to the exhibit giving size of corporations by assets,[1] and the exhibit giving the employers and employees,[2] you explained that about half of the total employees were employed by corporations employing less than 250 each, and the other half of those employing more than 250 each. Have you any figures giving the relative size in assets of the corporations in the two groups?

[1] Exhibit No. 57, supra, p. 103.
[2] Exhibit No. 56, supra, p. 97.

Dr. THORP. We have absolutely no figures that permit you to get across from wage earner concentration to assets concentration. I tried to see if we could work out any such comparison and the difficulty is that it was impossible in the length of time that I had to break down the Treasury tabulations to correspond with the coverage of Social Security.

For example, the Treasury records put the railroads and the public utilities together in their size classification. Well, now, the public utilities are under Social Security and the railroads are not, and therefore I was not able to make a cross-tabulation. I am quite certain that in working with the Treasury it would be possible to get some such calculation worked out.

Mr. DAVIS. It seems to me it would be quite illuminative if we could know the employment given with the investment of the two classes.

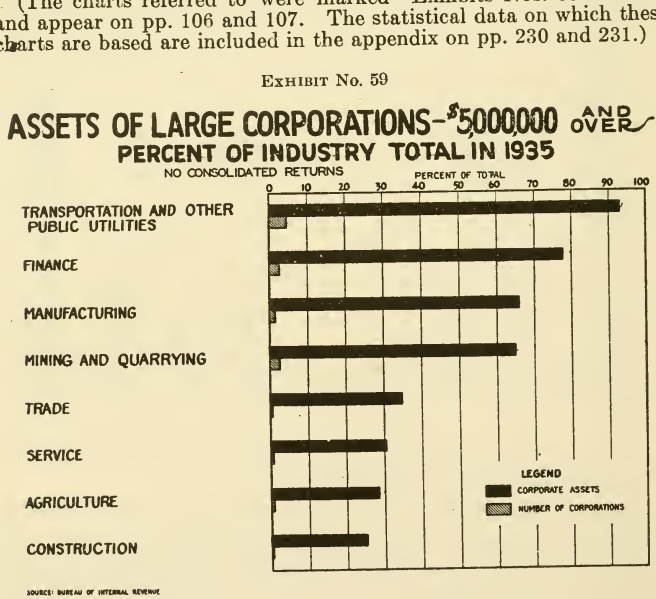
Dr. THORP. I think it is possible to make such a calculation.

ASSETS DISTRIBUTION FOR TYPES OF ECONOMIC ACTIVITY

Dr. THORP: In exhibit No. 59 we begin to examine this picture in terms of various subdivisions within our economic structure.

(The charts referred to were marked "Exhibits Nos. 59 and 60" and appear on pp. 106 and 107. The statistical data on which these charts are based are included in the appendix on pp. 230 and 231.)

EXHIBIT No. 59



Dr. THORP. In this case we have had to define large corporations as those having $5,000,000 in assets and over.

Senator KING. $5,000,000?

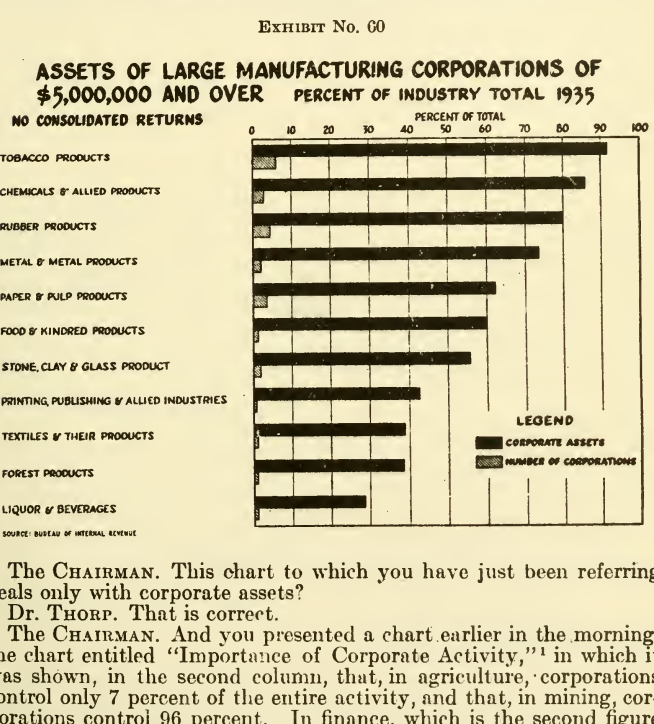
Dr. THORP. $5,000,000 in assets and over.

The groups are arranged in order. In transportation and other public utilities you get the greatest concentration of assets, and service,

agriculture and construction at the other end of the scale measured by the assets. In finance 2.6 percent have 78 percent of the assets; manufacturing, 1.5 percent having 66 percent of the assets; mining and quarrying, 2.5 percent having 65 percent of the assets; in trade, 0.5 percent with 35 percent of the assets, and service, agriculture, and construction falling below that.

Remember, this is a record of corporations. For example, in agriculture there are only seven or eight thousand corporations, so that while it is true that among those seven or eight thousand in agriculture 0.7 percent of them have 28 percent of the assets in existence, the figure means very little in terms of agriculture as a whole. However, for four groups, at any rate—about 90 percent or more of the activity is done by corporations, and therefore one can get a pretty definite indication from these figures of the degree of concentration.

EXHIBIT No. 60



The CHAIRMAN. This chart to which you have just been referring deals only with corporate assets?

Dr. THORP. That is correct.

The CHAIRMAN. And you presented a chart earlier in the morning, the chart entitled "Importance of Corporate Activity,"[1] in which it was shown, in the second column, that, in agriculture, corporations control only 7 percent of the entire activity, and that, in mining, corporations control 96 percent. In finance, which is the second figure on exhibit No. 59, according to your chart this morning, 84 percent of the activity is controlled by corporations. Don't you think it might be helpful to tie this chart into the other one and, by indicating the percentage opposite each subdivision here, indicate the percentage of the entire activity in that field which is carried on by corporations?

[1] See exhibit No. 55, supra, p. 96.

Dr. THORP. That would enhance the usefulness of the chart.

The CHAIRMAN. Suppose you do that, beginning with transportation and other public utilities.

Dr. THORP. The grouping is not exactly the same. The industry classes in exhibit No. 59[1] are those used by the Bureau of Internal Revenue and are based on the financial reports submitted by taxpaying units, whereas the classification in exhibit No. 55,[2] showing the importance of corporate activity, is based primarily on reports to the Bureau of the Census in which companies may be divided according to plants or establishments. That means that a corporation chiefly engaged in manufacturing which operates a retail store, would be wholly a manufacturing concern in the eyes of the Bureau of Internal Revenue, but would be subdivided into the two activities by the Census Bureau. With this limitation and some other minor differences in mind, the percentages of activity that are accounted for by corporations for the industries listed in exhibit No. 59 are:

	Percent
Transportation and other public utilities	92
Finance	84
Manufacturing	92
Mining and quarrying	96
Trade	58
Service	30
Agriculture	7
Construction	36

You will note that the only class in exhibit No. 59 showing a percentage different from the "like named" class in exhibit No. 55 is Transportation and Other Public Utilities. This class, appearing in exhibit No. 59, is a summation of the third, sixth, and seventh branches of industry listed in exhibit No. 55. The similarity in the other items is due to the smallness of the differences in classification of the items going to make up the groups in the two charts.

These percentage figures, of course, refer to activity while the data used in exhibit No. 59 relates to corporate assets.

Senator KING. Before you leave this field, you spoke about the corporations engaged in agricultural activities. What particular field of agriculture would fall within that classification?

Dr. THORP. I think the most important area in which any large agricultural corporations appear is in dairying.

Senator KING. Would those factories that slaughter animals and dispose of the meat fall within the agricultural classification?

Dr. THORP. No; I think meat packing is regarded as manufacturing.

Senator KING. Would the production of sugar from cane or sugar beets fall within your classification of manufacturing?

Dr. THORP. The refining of sugar would fall under manufacturing, but the actual raising of sugar beets or sugar cane would come down in the agricultural classification

ASSETS DISTRIBUTION FOR MANUFACTURING SUBDIVISIONS

Dr. THORP. Now we turn to exhibit No. 60[3] which is presented to show how varied the picture is if one looks at different divisions within the manufacturing field.

This is the chart giving the assets of large manufacturing corporations, the same corporations as were included in the last chart

[1] Supra, p. 106.
[2] Supra, p. 96.
[3] Supra, p. 107

which we discussed, but broken down by subdivisions for manufacturing. There we find that corporations with $5,000,000 of assets and over are of varying importance in different areas within the manufacturing group, the order being indicated very clearly from the chart—tobacco products; chemicals and allied products; rubber products; metal and metal products; paper and pulp products; food and kindred products; stone, clay, and glass products; printing, publishing, and allied industries; textiles; forest products; and liquor and beverages.

In the extremes, in tobacco products less than 6 percent of the corporations have assets of $5,000,000 and over but they have over 90 percent of the assets; and on the other extreme, in the liquor and beverages industry, 1 percent of the corporations fall in this category, and they have 28 percent of the assets.

I indicated previously that much depended upon the measure one used. The fact is, that one needs a number of different measures in order to determine size. It is important to keep in mind that what is a big unit in one industry might be a small unit in another. A big millinery manufacturing enterprise would be much smaller than a small steel mill, probably when measured either in terms of assets or measured in terms of wage earners.

LIMITATIONS ON MEASURES OF SIZE

Dr. Thorp. Now we have certain other things to consider if we are trying to do a complete job, and I hope in the course of time we can report to the Committee a much fuller analysis of this problem of size. For example, many of these enterprises are in fact larger than they appear. They may have foreign branches, for example; they may have such close working relationships with their sources of supply that in fact the size is much greater than appears in the formal organization. And then there are interlockings of various kinds, financial interlockings, interlocking directorates, holding companies and such, which also need to be taken into account if one is to get an accurate measure of our large business units.

On the other hand, I also want to point out that for many purposes these large units are not so large from a business standpoint, in that for many purposes they operate on a decentralized basis. For example, a large enterprise may have 10 plants scattered around the country, and for certain purposes those 10 plants may operate with a relative degree of independence. They may have independence with regard to their labor policies, or independence with regard to the way in which they will distribute their products in that area, so that in some cases one may have to modify his analysis of size, taking into consideration the fact of decentralized organization.

Senator King. Moreover, there are many gradations in the activities which culminate in the finished product, and each gradation might act in a decentralized form.

Dr. Thorp. That is correct. One of the difficulties, of course, about measuring size is that if you try to measure in terms of volume of sales, the enterprise that is nearest the consumer will seem to be the biggest because it will have piled up all the work done by all the enterprises before it, and therefore, it will seem to be a very large enterprise, although it may have contributed only a small part of the total.

Any one of the measures that is available has its weaknesses, and I think we have to follow them all to understand the problem.

Senator KING. Is it not a fact that in many of the plants, the industrial plants, that the finished product is the result of many different activities, perhaps as you state, in various communities, indeed in various States?

Dr. THORP. Oh, yes; we have now a great many highly fabricated ized where many products are brought together.

GROWTH OF LARGE ENTERPRISES

Dr. THORP. I should like to make a few comments with regard to the historical development of this situation. Of course much of this growth is a matter of internal growth in which the corporation over a period of time has reinvested and has grown by that method, but there were two periods of active consolidation and mergers in the country. The first was from 1898 to 1902. John Moody, who wrote a book called The Truth About Trusts, listed 318 industrial corporations which he was able to locate in 1904 which he said had about two-fifths of all manufacturing capital at that time. About 30 of them were capitalized at more than $50,000,000.

The CHAIRMAN. You mean all manufacturing capital?

Dr. THORP. I think he meant all manufacturing capital at that time. Of course there is some question as to what capitalization meant in 1898 and 1902, particularly as these corporations were incorporated with a good deal of water included, and it would be difficult to place value on them comparable with whatever our current accounting practices may be.

That period of consolidation ended rather suddenly, and from then until the twenties, there was no further appreciable development of consolidation and merger, but in the twenties there was a revival. I made an elaborate study of that several years ago for the National Bureau of Economic Research. They were reporting on recent economic changes to a committee of which Mr. Hoover was chairman. At that time I found that in 1922 a little over 300 enterprises had been absorbed by other enterprises in the year 1922; that by 1929 the number of manufacturing and mining enterprises which disappeared through the process of merger and consolidation was 1,245. There was an extraordinary expansion in the merger movement during the twenties. Those figures are for manufacturing and mining. You would find the same thing in hotels and hospitals and motion-picture theaters. It seems to have been a very general phenomenon at that time.

Mr. OLIPHANT. What were the years covered?

Dr. THORP. The years 1922 to 1929, and the lowest was in 1922 when 309 companies were absorbed; the highest was in 1929 when 1,245 were absorbed.

Senator KING. Some were liquidated, were they not, voluntarily, and some through the courts? What I mean is some of the corporations that had existed prior to that time were liquidated.

Dr. THORP. Yes; there is a continual process going on. Many of the enterprises which were formed in the early period, 1898 to 1902 period, did not survive. Some of them made three efforts, were organized three times before they finally collapsed, and there were quite a number of cases which failed to survive.

Mr. ARNOLD. These figures were not intended to include bankruptcies?

Dr. THORP. No; these figures do not include bankruptcies.

Representative SUMNERS. Did these consolidations result from schemes developed by somebody who wanted to sell a lot of stock and make money out of it, or was it an economic development from a business operating standpoint?

REASONS FOR CONSOLIDATIONS

Dr. THORP. It is hard to be certain about motives, but I should like to spend a little time on the reasons that the students have found to be present, and we can start with that one. I think there is no doubt but that both these periods of mergers were periods in which the desire to have new securities made available for flotation has been one of the most important existing motives. The promoters of these consolidations have frequently been people in the investment banking business, and the result of the consolidation has been new securities for flotation. That was very evident through the latter part of the twenties.

Representative SUMNERS. That was for the purpose of getting a commodity, to wit, a security, to sell the people.

Dr. THORP. Yes. What would happen would be this: It is not very good arithmetic, but one would take two corporations. Let's say corporation A had a value of 2, and corporation B had a value of 2. You would put these two together and give the new corporation a value of 5 on the assumption that it was bigger and more valuable and there were economies which I will discuss in a moment. You gave 2 to the owners of the first corporation, you gave 2 to the owners of the second corporation, and the remaining 1 you sold to the public. That was the process.

Of course that leads us into the second reason as to why these things take place, and that is the expectation of production and marketing economies. It is perfectly possible that when you put 2 and 2 together, you may get 5, for one reason or another. It may be that the larger enterprise will be able to gain in certain technological ways. My belief is that during the twenties they were particularly eager to expand size, because it was so helpful in marketing.

You can't afford a national radio broadcast if you are a little producer; you can't advertise in the Saturday Evening Post if you are a little producer. Size has certain definite advantages from the standpoint of using modern marketing methods, and, therefore, that was one of the definite considerations. There are many others. I think over the long run the increase in size is definitely to be attributed to certain changes in the economic system, the kind of products that we are producing. You can't produce automobiles with one or two employees; it has to be a fairly good-sized enterprise. The shift from household production over to producing in factories for many of our common necessities has been characterized by the growth of large-scale enterprises.

The CHAIRMAN. Would it not be warranted to say that practically all of the so-called durable-goods industry, which was discussed yesterday by Dr. Lubin, is of necessity carried on by corporations?

Dr. THORP. I think it is certainly true that durable goods tend to be large unit products.

The CHAIRMAN. And there has been a change. Senator King was speaking about mining in Alaska. Now, when placer mining was no longer profitable it became impossible for the individual to engage in mining which had to be done by a large corporation.

Dr. THORP. The only comment I would like to make on that is that it is not a general rule. Our most concentrated industry here is tobacco products, which is hardly a durable goods. Our next to the bottom is forest products, which comes in the durable-goods classification, but perhaps those are exceptions to the rule.

Senator KING. In your survey, did you find that where there were mergers, a corporation with two, another with two, and they merged, and you stop at five, that a portion of the increased stock was sold for the expansion of the united corporations and to increase their productivity or enter into wider fields which were germane to or a part of the activities of the former two?

Dr. THORP. There are a number of cases where a merger is part of a general expansion program, where part of new capital may definitely go into that expansion program. On the other hand, even where that takes place there is usually some reward for the promoters.

PART PLAYED BY THE SHERMAN ACT

Dr. THORP. I should like to introduce one other point, although I think in this rambling way I have covered almost everything important. I should like to advance the suggestion that the Sherman Act or antitrust law is in considerable part responsible for the development of these large enterprises. The reason for that is that through the process of interpretation, we have arrived at a state of law where five enterprises, each of which, let's say, represents 10 percent of an industry, cannot have collective action with regard to prices or markets or allocation of production without running afoul of the antitrust laws. That becomes a combination or conspiracy in restraint of trade. If, however, those five enterprises should merge into a single enterprise, then that single enterprise has no problem of conspiracy or combination; it is only a single enterprise.

Mr. ARNOLD. I don't think that is the position which the antitrust division is taking, and I don't think it is one that they are in a position to take. We have the identical problem in the *Aluminum case.*[1]

Mr. OLIPHANT. Do you know of any combinations or mergers dictated solely by the considerations that you enumerate? That would be the best way of putting it.

Mr. ARNOLD. That is a common interpretation, newspaper interpretation of the antitrust law, but without arguing the point, I wish to make the record clear that we made no such distinction, and we will get a specific decision on that, I think, in the *Aluminum case.*

Dr. THORP. I am merely citing this in terms of business motivation, and I am afraid business isn't always motivated in a perfect understanding of the meaning of the laws.

Mr. ARNOLD. I would question that statement very seriously.

[1] *U. S. v. Aluminum Co. of America.* At time of publication of this volume in litigation District Court, Seventh District of New York.

Mr. FRANK. Isn't it possible, Mr. Arnold, that some lawyers heretofore have given their clients the interpretation of the anti-trust laws to which Mr. Thorp refers, and while they may have been in error, that, nevertheless, would account for the motivation to which he directs attention. I have some reason to believe that there has been such advice given by counsel.

Mr. DAVIS. Isn't it a fact that Congress undertook to prevent these mergers by section 7 of the Clayton Act, enacted in 1914, and that after a lapse of a few years, the corporation attorneys advised clients how to avoid the application of this statute in the merger by acquiring assets instead of capital stock, which is the term designated in the act?

Dr. THORP. That is a very important procedure which has permitted developments which were not intended.

Mr. ARNOLD. Isn't it perfectly true that the lack of the application of the Sherman Act to new situations has certainly contributed in this case rather than the Sherman Act, itself, has. I wouldn't disagree with you that, under the "administration" of the Sherman Act, combinations have actually been encouraged in the past.

Representative SUMNERS. I should like to add, until comparatively recently. [Laughter.]

Dr. THORP. I agree with your amendment, and I wonder if you would agree with mine, that where it is not a predominant part in the industry, it probably would have been recognized by these businessmen. Let us say there are five of them, each of whom represents 5 percent of the industry. If the five of them conspired, that would be contrary to the antitrust law. If their merger did not bring them to a monopoly position in the industry, it might be permissible under the law.

Mr. ARNOLD. Or the same way if five of them got together in the *Appalachian Coal case*.[1] I question very much if a distinction can be made such as you are now drawing.

The CHAIRMAN. This is a point on which contrary legal opinions might be submitted by different persons. We are just discussing the facts.

Dr. THORP. I think so. It is certainly one on which I would hesitate to get into argument.

Mr. OLIPHANT. Mr. Thorp has been good enough to discuss the fundamental issue. I would draw Mr. Thorp's attention to a statement which I think might be misinterpreted. I don't think you would say, when you instance the example of automobiles, the necessity for concentration, because in the early production of the automobile they weren't produced as they are produced now.

Dr. THORP. Yes, and in that case I am not talking in terms of concentration in the sense of the size of the present automobile companies. For example, the production of an automobile by its very nature requires a larger scale enterprise than the production of a pair of shoes, but you could perfectly well have an economy which happened to evolve in such a way that shoe factories were larger than automobile factories.

Senator KING. If I may supplement my friend's statement, many of the automobile companies along in the twenties and as far back as

[1] *Appalachian Coal Inc.* v. *U. S.*, 288 U. S. 344.

1912 failed, and the automobiles then cost four or five times as much as what they cost now under this concentration.

Representative SUMNERS. Doctor, is it necessary to have a big organization in order to finance contact between the place where the commodity is produced and the far-flung group of purchasers? Does that enter into the development of these big concerns?

Dr. THORP. The problem of financing is certainly one of the advantages of large enterprises. It is possible for them to use different methods of raising capital, if that is what you mean.

PROBLEM OF MARKETING BY SMALL ENTERPRISES

Representative SUMNERS. A little concern, for instance, manufacturing hosiery in the South, may make a perfectly good article, but the people over the country don't know that that article is produced in that community, and that concern doesn't have the amount of money to let them know that it is produced there. When production was primarily to meet local demand, local demand accommodated itself to local production. But now since the rapidity of transportation and that sort of thing has moved the field of production and consumption far apart, does that cut any figure in the disappearance of the small manufacturing concerns, the inability to bridge the distance between the place where they produce and the people who want to buy? Have you studied that?

Dr. THORP. I don't know that I can give you any factual reply on that at the present time. I think it is true that for certain types of products we have developed national markets, and one can't operate in a national market unless one is of a certain size. Part of one of the characteristics of these large enterprises is the fact that they market over a larger scale.

Representative SUMNERS. Take production of gasoline, for instance. A small gasoline plant may make good gasoline, but the people don't know it is good gasoline. They can't sell it because the people don't know it is good gasoline. The result is that they sell to the larger plants who in turn attach their names to it. Is it possible by standardization to make any improvement in that direction, or haven't you studied that?

Dr. THORP. That is something that requires a great deal of study. I have had some exposure to the problem, particularly in N. R. A., and there are a number of commodities where the establishment of standards and grades might help, where at the present time judgment rests almost entirely on advertising. I don't think we have any elaborate studies which will define the limits or the extent, perhaps I should say, to which that might be helpful.

Senator KING. Judge Sumners, doesn't the question with respect to gasoline——

Representative SUMNERS (interposing). I use that merely to illustrate.

Senator KING. Yes, but with respect to that commodity the question of distribution is one of primary importance, is it not? Take Texas as an illustration. You produce large quantities of oil, but your market is limited if you are limited to the local market so that gasoline is produced and is shipped to New York and shipped all over the United States through pipe lines, through trucks, and railroads.

A small producer, the man who produces or develops the oil field would be unable to find a market other than by selling to some of these companies that have arranged for a wide distribution of the commodity.

Representative SUMNERS. The casual purchaser wouldn't know whether this commodity that is offered for sale is a good thing to put in his car. But I asked the question whether or not, it might be possible to establish standards, and I am using it purely to illustrate, of merit for gasoline so that if a small producer should be able to meet those standard requirements he could have something to indicate to the public that he had produced such an article, and then the public might have confidence to use it. I was not making a statement, I was making an inquiry.

Senator KING. I think the Interior Department has established standards with respect to the quality of the gasoline produced in your State so that the independent producers find as ready a market when they can get to the market as the large producers, because of the fine quality of their product.

CLUSTERS OF LARGE ENTERPRISES

Dr. THORP. In considering these larger corporations, it is evident from this chart that they appear in different degrees in different sections of the economic system.

I would like to give one other demonstration to show that the development is to some extent uneven. This is based upon the pioneering work done by Berle and Means in The Modern Corporation and Private Property. In this book they listed the 200 largest nonfinancial corporations in the country. You may examine the 89 corporations which are manufacturing and mining, which one can fairly say includes the 89 largest manufacturing and mining enterprises in the country. There is a decided tendency for them to appear in groups or in clusters. Twenty out of the eighty-nine are petroleum companies, 11 are iron and steel, 4 automobiles, 4 tires, 4 coal, 3 copper, 3 meat packing, 3 paper, and then there are 12 cases of pairs, companies that one would put together, like General Electric and Westinghouse, for example. The remaining 21 have no rival, you might say, on the list, but most of them can hardly be thought of as being dominant in their industry.

The only ones which I could see in checking over the list which can be thought of as standing clearly alone are the Aluminum Corporation and the United Shoe Machinery Co. There are certain other cases which stand partially alone, as, for instance the Pullman Co., which has monopoly of all circumstances under which one wishes to sleep on the railroad trains. On the other hand, as far as their manufacturing of railroad equipment is concerned, they are in competition with other enterprises.

Then, of course, there is competition between these various large enterprises, in areas not necessarily their primary activity, for instance General Motors and General Electric both being active in the electric refrigeration field.

The one point I wish to make in citing these cases is merely to illustrate the fact that rather than having single large enterprises

which have emerged here and there, each one standing more or less by itself on its own island, dominating a particular part of the economic system, there has been a tendency for the large enterprises to emerge in groups or in clusters, so that we have certain industries which are very clearly industries in which there are a small number of large enterprises. I will give some measures of concentration when we get to that. At this moment I merely want to emphasize the fact that throughout the entire system there seem to be certain spots at which the large enterprises have grown, and then of course there are a number of other spots where they haven't appeared at all.

TYPES OF FUNCTIONAL ORGANIZATION

Dr. THORP. The next topic which I wanted to discuss, and I think perhaps I had better cut my discussion somewhat at this point, has to do with looking at these business enterprises from the point of view of what they do, a functional classification.

After all, there are a whole series of jobs to be done from the raw material stage to the consumer, and those can be arranged in a number of different sorts of patterns. You can have a situation in which one enterprise works all the way from the raw material through to the consumer, or you can have a situation in which the various steps are done by a whole series of separate enterprises. There are a number of ways of organizing it, and we haven't any elaborate material available at present which will indicate what those patterns are exactly.

We do know the types of organization that there are. The most frequent way in which enterprises grow is usually described as horizontal growth, which means doing more and more of the same thing. In other words, you have a given plant of a certain size and you expand by building another plant which will do exactly the same thing. That is a very natural form of expansion, that is the kind of enterprise in which you are expert, and therefore when you expand you tend to follow your own expertness. Furthermore, it means that it may come merely because you are being successful and you have to expand your capacity.

The second type is described as the vertical integration, where rather than expanding,doing more and more of the same sort of thing, you expand forwards or backwards, back into raw materials or onward toward the market, and that kind of structure has developed in certain industries very considerably. You will find, for instance, very often in the metal industries the expansion has been of the vertical sort. On the other hand, in the textile industries, surprisingly enough, there is a relatively small amount of vertical integration. They tend to expand horizontally. And there are rather different cases, even within industries. Tin can manufacturers, for instance, have never expanded back into either raw tin or steel, while wire fence, which is another steel product, is largely produced by integrated manufacturers.

Then there is another type of functional organization which you might call diagonal, cases where an enterprise has a single raw material and then expands by different means of using that raw material, or where it may sell to a particular market and produce a number of varied things which go into that one market.

Those three are fairly clear-cut. They have simple and easily understood relationships, the horizontal, the vertical, and the diagonal cases.

There is a fourth one that is important, which we just have to call the conglomerate, the case where a single enterprise does a number of different things. There is usually some explanation for such development, although frequently it is pretty much a matter of chance. For instance, one of our large marble quarrying companies runs a creamery, and on inquiry it merely turned out that when it acquired some property for the marble underneath it, there was a creamery on the surface of the ground and it had to keep the creamery going. Such unusual combinations occur in a number of cases. We have iron and steel companies that operate farms, flour mills, and various things just because of the fact that they came with certain resources that they have bought. Then there are more and more cases where research activity tends to lead into one or another type of expansion, the only connection being that these products or processes have emerged from the same research laboratory.

There are a number of cases where in an effort to sell a seasonal product, unrelated things have been brought together in order to keep the work force busy throughout the year.

These cases I have been describing are rather clear-cut instances of formal organization. I would like to mention the fact that there are certain indirect ways in which functions can expand. For instance, a manufacturer may do the advertising and become an active force in the selling of his product or even go beyond that in the case of resale price maintenance, and while he is not vertically integrated, and not engaging in retailing, he is carrying on a certain retail function. However, I will not take more time in discussing the functional organization of enterprises, although it is very important.

Representative Sumners. Would you mind indicating whether or not the disposition to expand laterally, horizontally, affects the status of the competitor more—I think I will withdraw the question; it will take too much time.

Dr. Thorp. It sounded as if it were going to be difficult.

PROBLEMS OF THE INDIVIDUAL BUSINESSMAN

Dr. Thorp. So far I have been describing enterprises and I should like at this point to shift the ground a little to what I think of as a more dynamic approach. We have been talking about enterprises in a descriptive way. Now, I want to just point out the problems that the individual businessman has to face as he runs his business and introduce those as indicating something of the actual type of activity, the kind of inquiry that the business man has to make.

In general, I am going to list these problems under four areas: The first is the internal operation of his own business, and that is, you might say, No. 1 in the businessman's job. Second is the problem of guessing about the future. Almost every action that one of these businessmen makes involves guessing about the future. In fact when he goes into business he is guessing about the future. Every time he extends credit he is guessing about the future. Every time he makes a purchase of raw materials he is guessing about the future.

These problems of the future have been sufficiently important so that specialized services have developed to help the businessman,

and he in turn tries continually to find ways in which he can get some assurance, trying to eliminate, wherever he can, uncertainties that may affect him in the future. There are a number of cases where the Government, of course, will provide services of one sort or another.

I think, Senator King, you questioned me this morning with regard to the question of all these businessmen who were taking advantage of their opportunity to lose their money, and it would seem to me at this point worth suggesting that if there were ways in which better information about the risks of business and the requirements for success in business could be made available, that one might help to eliminate somewhat the social cost of those failures.

Senator KING. My recollection is that the Congressman from Texas wanted to know whether there was any obligation on the part of the Government to prevent a man losing his money even if he wanted to.

Dr. THORP. The third set of problems that the businessman faces arises out of his relationships with other business enterprises. His relationships with his suppliers, his customers, transportation, finance companies, and those, define to a large extent his success or failure.

That is where he is eager to have, as far as possible, bargaining strength; that is where he is eager as far as possible, to eliminate uncertainties; that is where he is eager to get customers who will stay with him by one method of persuasion or another, and where frequently he actually goes in for vertical integration to eliminate some of the uncertainties in his external relationships.

Finally his big problem is to survive in his own industry in the face of his competitors, and when we come to the question of the businessman and his competitors, we have come to the next main part of what I want to introduce as testimony and that is the discussion of industries rather than of individual businessmen.

Senator KING. Of course the question of the survival in the face of competition relates to the small manufacturer or the small businessman in a little town, two stores or two butchers or two small enterprises, there is always competition between the two, and there is a struggle there for supremacy and for the maintenance against the competition of the other, or the others.

Dr. THORP. I think there is a problem of survival for the small businessman in the city, too, Senator.

Senator KING. Exactly; perhaps greater there than in the small community.

THE MEANING OF "INDUSTRY"

Dr. THORP. When we come to the question of industries, first I want to raise the question as to what do we mean by an industry, and for that I want to illustrate from this chart.

(The chart referred to was marked "Exhibit No. 61" and appears on p. 119.)

Dr. THORP. I merely pick the glass industry because I happen to have the material available in a recent report from the Tariff Commission. Any other industry would raise exactly these same problems which I am going to point out.

If we talk about the industry, what do we mean? Here are the various possibilities. This census grouping of stone, clay, and glass products, they all have a more or less technical relationship. If we take this group together, we have about 4,500 companies. Per-

haps we should limit it and take the subdivision of glass and glass products. If we do, we get down to something like 200 companies. If you wish to be a little more exact than that, you have flat glass with 36 companies, and if you still wish to be more exact, you get down to these subdivisions of the flat glass industry: Sheet glass, plate glass, laminated glass, rolled and wire glass, and so forth.

It is all a matter of what you want to define, and of course that depends on your problem. For instance, if you are considering a question of a labor regulation of some sort or another, perhaps one of these larger groupings would be the most useful.

EXHIBIT No. 61

THE GLASS INDUSTRY AND ITS SUBDIVISIONS 1936

	NUMBER OF PLANTS	NUMBER OF COMPANIES
STONE, CLAY AND GLASS PRODUCTS	5722	4500 *ESTIMATED*
GLASS AND GLASS PRODUCTS	276	200
FLAT GLASS	75	36
SHEET GLASS	21	12
PLATE GLASS	11	5
LAMINATED GLASS	9	7
ROLLED AND WIRE GLASS	14	10
OBSCURED GLASS	4	4
COLORED, CATHEDRAL OPALESCENT AND ANTIQUE GLASS	9	7
GLASS BLOCKS	3	2
GLASS TILE	4	3

SOURCE: BUREAU OF THE CENSUS
UNITED STATES TARIFF COMMISSION

If, however, you are interested in a price problem, obviously you want to get down to just as fine a measure as possible. There is no single correct definition of industry. The only point I want to make is that there are many different groupings, more elaborate or less elaborate as one wishes to make them.

LACK OF UNIFORM PRODUCTION RATES BY INDUSTRY MEMBERS

Dr. THORP. Now we start talking about industries. This very definitely introduces the proposition that within industries there are extremely wide variations in the behavior of subdivisions within the industry.

For instance, we talk of the construction industry, yet here is the picture of residential costruction and non-residential construction behaving rather differently.

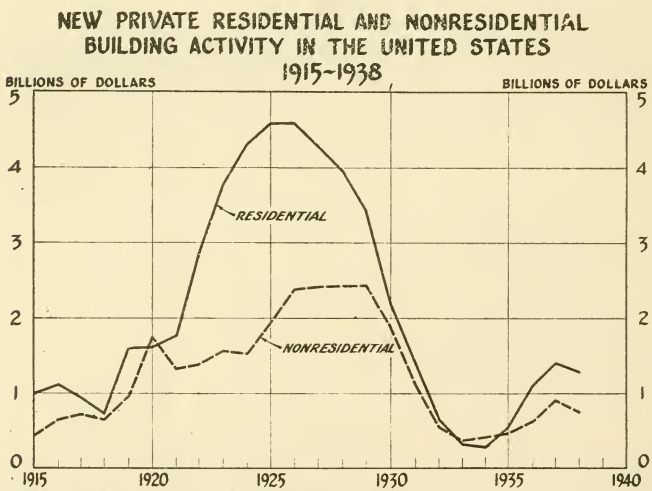
(The chart referred to was marked "Exhibit No. 62" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 231.)

Dr. THORP. Here are two kinds of construction, highway construction and railway construction.

(The chart referred to was marked "Exhibit No. 63" and appears on p. 121. The statistical data on which this chart is based are included in the appendix on p. 232.)

Dr. THORP. Just to show how varied the behavior in the parts of an industry can be, this is the record of when some of the subdivisions of the construction industry reached their peak during the twenties. Light and power construction reached its peak in 1924; public schools

EXHIBIT No. 62



in 1925; residential, non-farm, in 1926; commercial building in 1927; street railroads and subways in 1928; factory building in 1929; steam railroads in 1930; public buildings in 1931.

There are eight subdivisions of the construction industry, each reaching its peak in a different year between 1924 and 1931. So that if one is talking about the construction industry, obviously for many problems the discussion has no meaning unless it is broken down into more homogeneous parts.

As further illustrations of this matter of variety within industries, this very complicated looking chart is intended to be complicated.

This chart is "Production of Steel Castings for Nine Plants." The production in each plant in June 1937 was taken as 100. The industry line is the heavy black line. The lighter lines represent the behavior

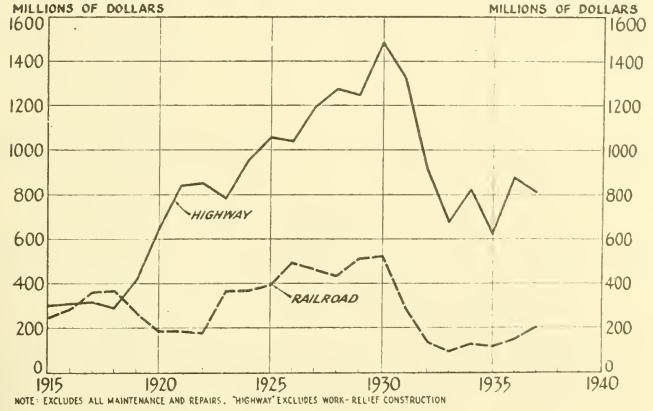
of production for each of nine plants selected at random. Three happen to be large, three middle-sized and three small, although I can't tell you which ones are which.

(The chart referred to was marked "Exhibit No. 64" and appears on p. 122. The statistical data on which this chart is based are included in the appendix on p. 232.)

Dr. THORP. The significant thing is that in this industry, which we talk about as being a single industry and for which the Government publishes total statistics in the Survey of Current Business, production in one plant was, in 1929, over two and one-half times as high as it had been in 1927, while in another plant production in 1929 was well below its 1927 level.

EXHIBIT No. 63

NEW RAILROAD AND HIGHWAY CONSTRUCTION ACTIVITY IN THE UNITED STATES ~ 1915-1937



NOTE: EXCLUDES ALL MAINTENANCE AND REPAIRS. "HIGHWAY" EXCLUDES WORK-RELIEF CONSTRUCTION

SOURCE: BUREAU OF FOREIGN AND DOMESTIC COMMERCE

The point that is significant from this chart is merely the fact that there is no single clear-cut pattern for each plant within the industry, but the plants in the industry had decidedly varying records. Here is a company, for instance, which in 1933 broke far away from the rest of the industry and had a 50-percent higher production than in 1927. The same sort of picture is shown in the chart for "Portland Cement Production for Nine Mills."

(The chart referred to was marked "Exhibit No. 65" and appears on p. 123. The statistical data on which this chart is based are included in the appendix on p. 233.)

Dr. THORP. We think of cement as being an industry in which there would not be a very wide variation in production among the various groups in the industry, yet some were appreciably below the trend for the industry as a whole and some were above. Where these lines reach the bottom of the chart it means that that plant was

completely out of production at that particular time, so that in these years we have certain plants which were completely out of production, although certain others were doing fairly well.

Here is a plant which started out well and then went below the general level, but has come ahead and is far above the rest in the

EXHIBIT No. 64

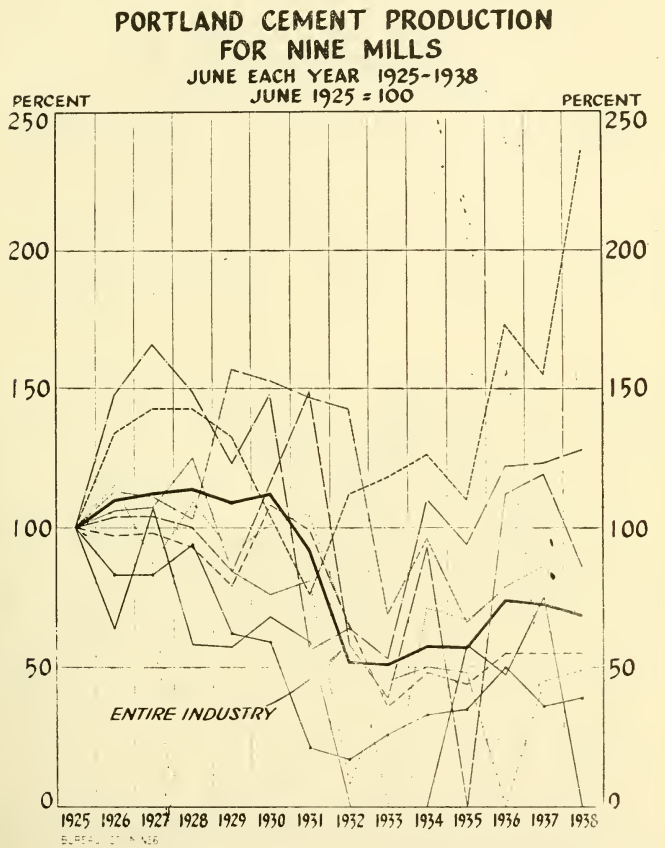
industry in its 1938 record. Again the story is one of differing behavior among the members of a single industry.

Senator KING. It depends on local conditions and transportation, does it not? Cement might be produced in a place where the cost of transporting to the market is very small and there would be a great

demand in that particular market at a given time, whereas in other sections of the country there would be no particular demand for cement products.

Dr. THORP. I think there is a great deal to be learned in terms of finding out why these different plants behaved so differently. One

EXHIBIT No. 65



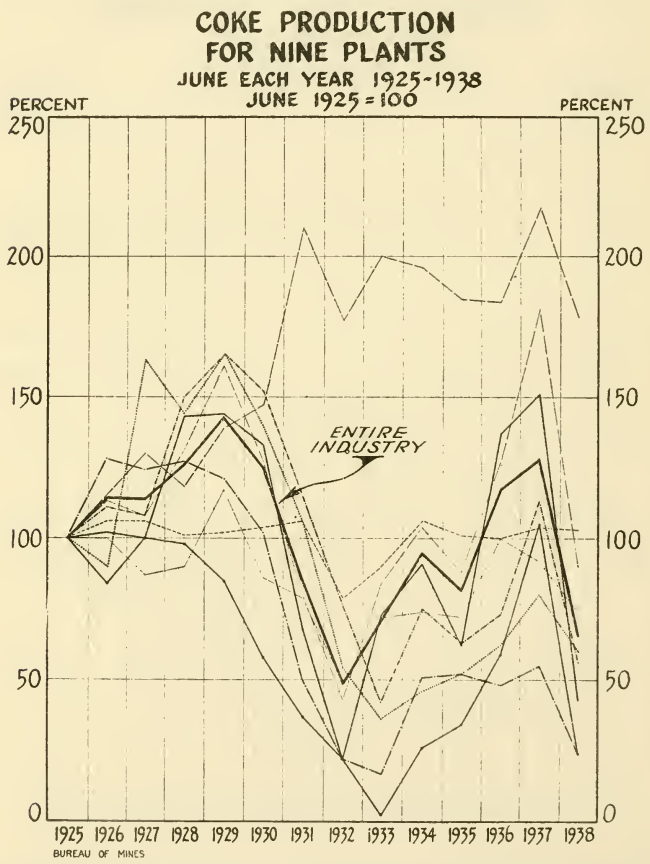
can think of a good many possible explanations, and it ought to be possible, by going back to the record, to determine the reason or reasons.

The CHAIRMAN. It certainly is clear from the charts you are presenting, that in these particular industries there is no common pattern which each plant follows.

Dr. THORP. That is quite correct. The same thing is shown in the chart for "Coke Production", where there is perhaps more nearly a single pattern for most of the industry, but there is one plant which seems to have varied greatly from the general pattern.

(The chart referred to was marked "Exhibit No. 66" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 233.)

EXHIBIT No. 66



Representative SUMNERS. May I ask, have you found anything to indicate that the right-hand plant [1] going up to 220 may have itself very materially determined that some other plant could go down the line? You haven't been able to get into that?

[1] Exhibit No. 65, supra, p. 123.

Dr. THORP. We haven't gotten into that. We are planning to make studies of this kind of record, not just for nine plants, but for a large number plants, and see what can be learned from the record.

Representative SUMNERS (interposing). Its queer behavior looks like he had some reason to boost him up.

Dr. THORP. I suspect there is some reason, but I am sorry I can't tell you what it is.

Flour production is from the point of view of the industry very stable. This heavy black line which shows the trend of the total output of the industry varies only slightly from year to year, and for many of the plants there is no great degree of variation from one year to another. Nevertheless, there are a couple of cases where the variation has been rather extraordinary and nothing like the trend for the entire industry.

(The chart referred to was marked "Exhibit No. 67" and appears on p. 126. The statistical data on which this chart is based are included in the appendix on p. 234.)

The CHAIRMAN. Now, you have one in which the variation in 1931 and 1932 runs from well below 100 to well above 400.

Dr. THORP. That is right. I suspect that something happened in this plant in 1931 which was a temporary situation, as for example, a fire or a strike, or something of that sort, so that it is hardly fair to compare that year with 1932. It had done pretty well on the whole.

EMPLOYMENT RECORDS OF INDUSTRY MEMBERS

Dr. THORP. Here we have a chart that is a little different. These other charts are production records. This is an employment record. Now that you are used to looking at 9 lines, we show you a chart with 15 lines on it. These are 15 different plants. The lines are not tied together at a single point, but the average for 1923 to 1925 is taken at 100. In the rubber industry, as you can see, the variations have been tremendous.

This one does not have a single central line indicating the average of the industry, and I defy anyone to look at that chart as it stands there and fill in a line that would be representative of the industry. The firms in terms of employment, have shown very wide fluctuations. As a matter of fact, the industry level is just below 100 in 1936, the last year that is plotted. You can see what happened in the industry quite clearly. The indexes for one group of concerns are around 225 and for another group below 120, rather an extraordinary division taking place.

(The chart referred to was marked "Exhibit No. 68" and appears on p. 127. The statistical data on which this chart is based are included in the appendix on p. 234.)

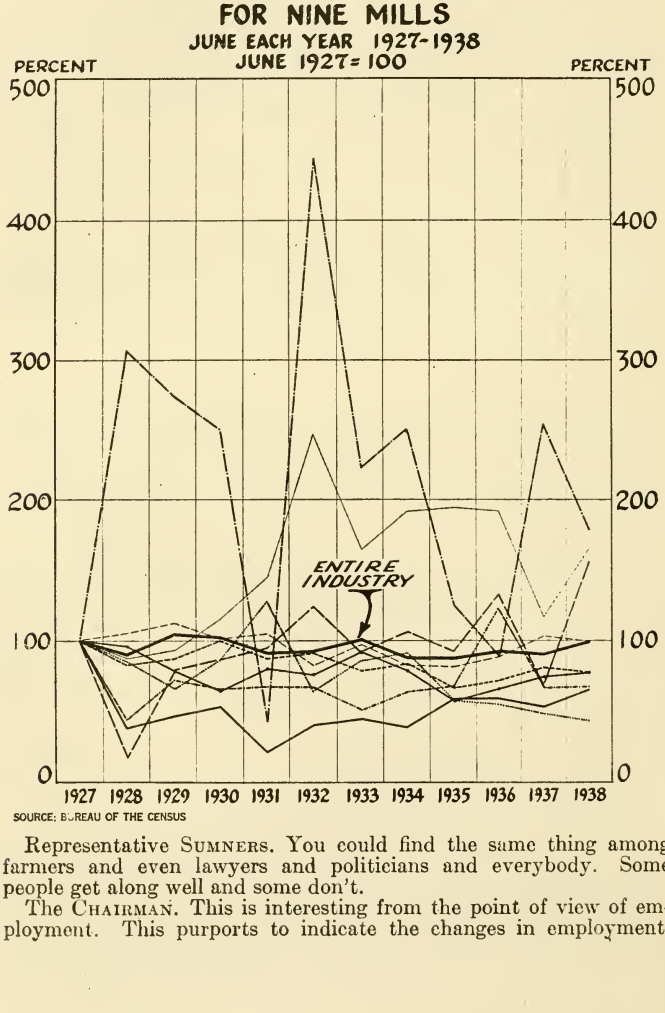
Mr. HENDERSON. Wouldn't it be true that those below the average in 1936 are undoubtedly pretty large producers?

Dr. THORP. Inasmuch as the average for the whole is just below 100, I suspect it is not an unreasonable statistical deduction that some of the plants down in the lower levels must be larger than some of those at high levels, to get an average at that point.

The CHAIRMAN. There are certainly more plants above the line than below.

Dr. THORP. Yes; there are more plants above, and these are a good deal further above.

EXHIBIT No. 67

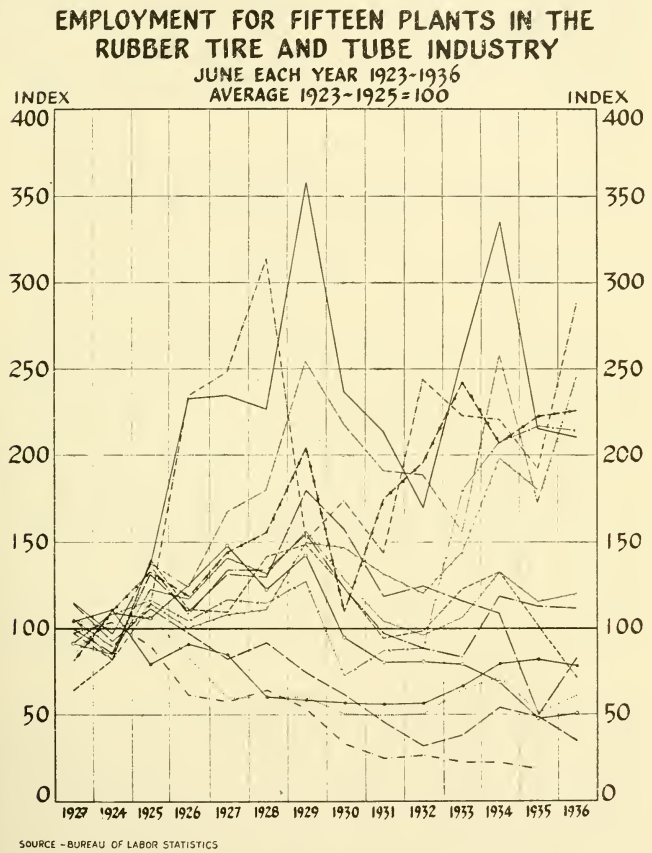


Representative SUMNERS. You could find the same thing among farmers and even lawyers and politicians and everybody. Some people get along well and some don't.

The CHAIRMAN. This is interesting from the point of view of employment. This purports to indicate the changes in employment,

and you have just drawn the deduction that the plants which are represented as below the line are large producers; the plants which are above the line are small producers. Would it be a justifiable deduction that the small producers have had better luck in employment than the large producers?

EXHIBIT No. 68



Dr. THORP. I think that might be a deduction from this chart for at least some small producers among this particular group of plants. I would need to know more about the operations of these individual plants before venturing a definite statement.

Senator KING. You are dealing only with rubber?

Dr. THORP. This chart refers only to the rubber tire and tube industry.

Senator KING. You recall, do you not, that there have been very wide fluctuations in the prices of rubber during the past few years? There have been strikes in some places, notably Akron, Ohio, where they practically destroyed the industry, as well as some other places, so that those strikes or untoward circumstances would create great changes and perhaps the big industry would suffer more than the smaller one.

Dr. THORP. I had no intention of trying to explain these variations. We do hope to derive some useful conclusions from such studies. At the moment, I merely wanted to introduce it as raising a question of variation within industries.

Dr. LUBIN. If I might add at that point, before we ever had these strikes there was a tendency for certain firms to move plants into areas where labor costs were much lower, the result has been that some large firms opened plants in Southern areas and in other areas with lower labor costs. These new plants increased their output, and consequently their employment, much faster of course than was true of the same firms in their older plants which were already large. In other words, shifting business away from the larger to the newer plants.

Actually, however, such movements of tire employment cannot be be studied from this particular chart which ends with 1936 and which includes only a sample of firms that have been in operation since 1923 and have reported employment each year. It shows neither firms that disappeared or new establishments that have started since 1923.

I cannot identify the individual firms on this chart, for the reports are received in confidence. It so happens that both the large increases and the large decreases on this particular chart were registered by relatively small companies. However, no generalization can be drawn from this one chart other than that it illustrates the diversity of movement among business enterprises. The Bureau of Labor Statistics is studying employment changes in large and small enterprises on a broad scale at present.

The CHAIRMAN. That suggests another question to my mind. Dr. Thorp, does this chart purport to indicate that each of these plants represented by a separate line is under separate ownership or control? There is nothing to indicate how many of these plants were owned by the same large company, for instance.

Dr. THORP. We have nothing to indicate that, as far as I know.

Mr. DAVIS. Dr. Thorp, in some of our studies I think you probably find that contracts made by some of the rubber companies with the large mail order houses and chains resulted in the large increase of their trade, and the relative decrease of some of their competitors?

Dr. THORP. I had intended here to introduce a discussion of conflicts which appear in the N. R. A. experience as between groups within industries, but I think rather than take any further time on that, if I may just file the report of the President's Committee of Industrial Analysis which lists a series of conflicts, that will perhaps save time. May I just file that for the record?

(The report referred to was marked "Exhibit No. 69" and is included in the appendix on p. 235.)

SHIFTS IN IMPORTANCE OF INDUSTRIES AND TRADES

Dr. THORP. We now come to talking about what has happened to certain industries.

This is a record which shows the leading manufacturing industries in 1899 and 1929. The value of product of the manufacturing industries of the United States had multiplied about six and a half times between those years. The leading industry in 1899 was the iron and steel industry, and the leading industry in 1929 was the motor-vehicle industry. The value of products of the motor-vehicle industry in 1929 was about six and a half times that of the iron and steel industry in 1899.

(The chart referred to was marked "Exhibit No. 70" and appears on this page.)

EXHIBIT No. 70

LEADING MANUFACTURING INDUSTRIES
1899 AND 1929

1899			1929		
RANK	INDUSTRY	VALUE OF PRODUCT IN MILLIONS	RANK	INDUSTRY	VALUE OF PRODUCT IN MILLIONS
1	CRUDE IRON AND STEEL AND SHAPES FOR REM'FG	$804	1	MOTOR VEHICLES, BODIES AND PARTS	$5260
2	WHOLESALE SLAUGHTERING AND MEAT PACKING	790	2	CRUDE IRON AND STEEL AND ROLLED PRODUCTS	4137
3	FOUNDRY AND MACHINE SHOP PRODUCTS	645	3	WHOLESALE SLAUGHTERING AND MEAT PACKING	3435
4	LUMBER AND TIMBER PRODUCTS	567	4	PRINTING AND PUBLISHING	2760
5	FLOURING AND GRIST MILL PRODUCTS	561	5	PETROLEUM REFINING	2645
6	MEN'S CLOTHING	415	6	ELECTRICAL MACHINERY APPARATUS AND SUPPLIES	2301
7	PRINTING AND PUBLISHING	347	7	BREAD AND OTHER BAKERY PRODUCTS	1526
8	COTTON GOODS	339	8	COTTON GOODS	1524
9	BOOTS AND SHOES FACTORY	261	9	STEAM RAILROAD REPAIR SHOPS	1184
10	REFINING SUGAR AND MOLASSES	241	10	FLOUR AND OTHER GRAIN MILL PRODUCTS	1060

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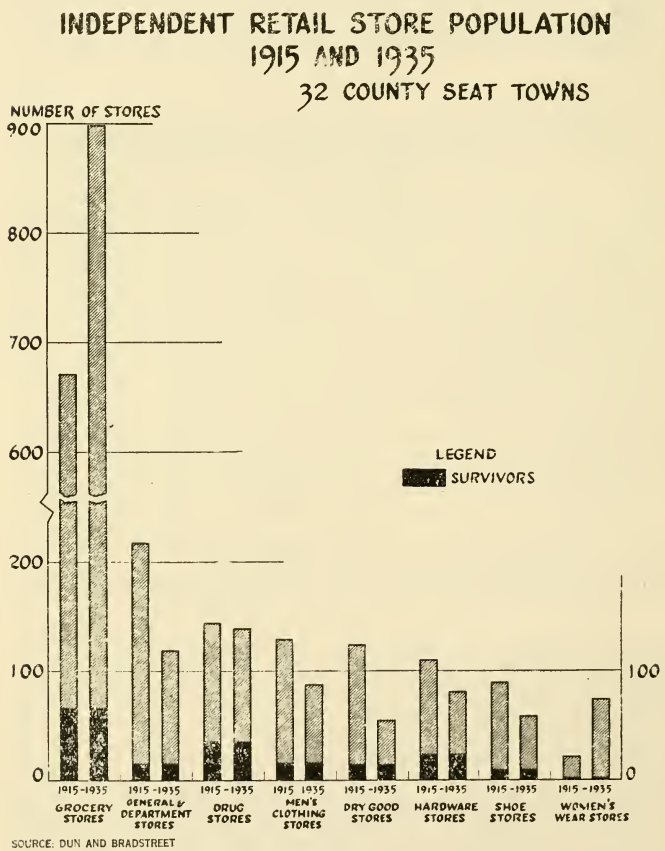
Dr. THORP. The interesting thing to note here is that five industries appear on both lists: Iron and steel, wholesale slaughtering and meat packing, printing and publishing, cotton goods, and flouring and grist mill products. On the other hand, we have five new ones in 1929. Over the period of 30 years there was a considerable shifting about in our whole economic activity. Part of it, of course, is due to the shifting in certain activities from the home. For instance, bread and bakeries appeared in the 1929 list but not in the list for 1899. There is a rather amazing growth in printing and publishing. Of course, the outstanding development is in the motor-vehicle industry which did not appear at all in 1899, and was the largest producer in 1929.

For retail trade I have a somewhat different explanation to make. This chart is based upon a special study which we made at Dun &

Bradstreet of the retail store population in 32 county-seat towns—these are towns averaging five to ten thousand population—in 1915 and 1935, for different types of stores. Because the grocery stores dominated, we had to break the chart at this point, just below 400, or the grocery-store chart line would go up much higher.

(The chart referred to was marked "Exhibit No. 71" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 235.)

EXHIBIT No. 71



Dr. THORP. In 1915 these towns, scattered all around the country, had 671 independent grocery stores. In 1935 they had 898 independ-

ent grocery stores. Actually, the number of grocery stores had appreciably increased. The black area at the bottom of each column indicates the number of grocery stores in existence in 1915 which still survived in 1935. Only 67 of the 671 grocery stores remained in 1935.

Now we come to general and department stores. In 20 years the number has dropped decidedly, from over 200 to 118. The number of drug stores remained almost the same. Men's clothing stores dropped from 128 to 87; dry goods stores from 124 to 55; hardware stores declined from 110 to 80; shoe stores dropped from 88 to 59; women's-wear shops increased from 22 to 73.

It happens that the total number of stores was almost exactly the same in 1915 as in 1935. Most of the lines have shown decreases except for groceries, which went up, and for women's wear which increased more than threefold.

The changes that took place in the retail industry between 1929 and 1935 are indicated in the Bureau of Census records. For example, in that period of 6 years the number of eating and drinking places increased about 120,000, filling stations 75,000, and second-hand stores—that is one interesting result of the depression—increased by 7,000. On the other hand, furniture and household appliance stores decreased 14,000, and all apparel stores 18,000.

So you have within the population rather extraordinary shifts from one industry to another, and one type of activity to another. Of course, I hardly need to point out that within the enterprise itself there are important shifts, that the grocery store has recently been adding meat and tobacco products, and now many of the grocery stores are carrying standard drug items.

Here is another kind of shift that appears within industries, that is the seasonal variation of business activities. It is very important in many industries and raises certain difficult problems of planning, financing, and marketing. This chart presents the seasonality of industrial operations for nine industries. The cement industry, for example, is one of our highly seasonal industries, showing its peak in the summer, while the coal industries show their low point in the summer.

(The chart referred to was marked "Exhibit No. 72" and appears on p. 132. The statistical data on which this chart is based are included in the appendix on p. 236.)

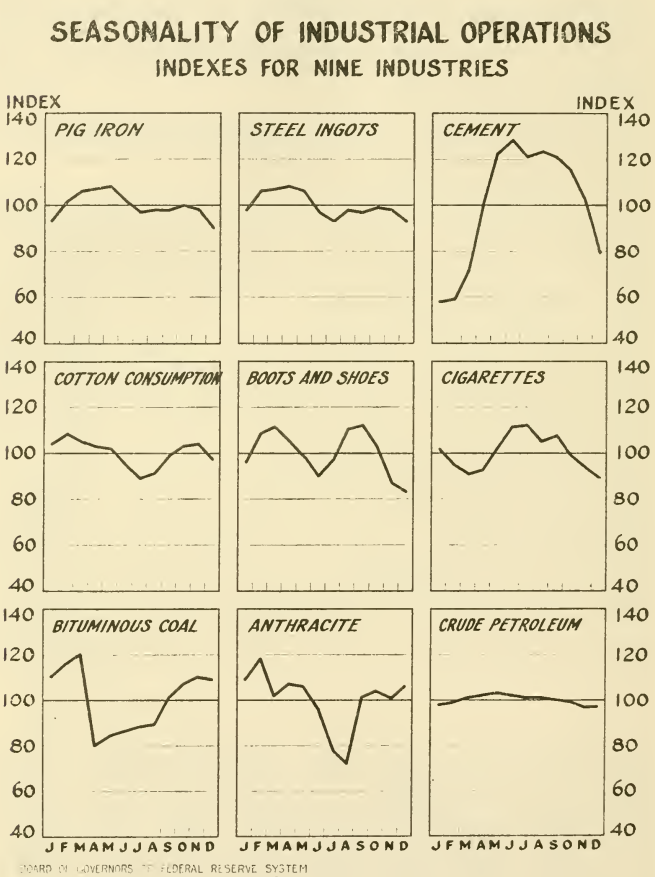
VARIETY OF TRADE PRACTICE PROBLEMS

Dr. THORP. Now we come to a problem of other types of variations within industries which cannot be measured statistically. Those are the variations in industries which result from different practices and patterns and habits which the industries themselves have developed. It is obvious that industries will be different because of the fact that they have different products and different processes and different types of markets. Their histories have also varied, and it is not surprising that the focal point at which their problems appear will vary.

For example, the problem of trade-ins is naturally a problem restricted to certain large-scale industries which produce durable products. Trade-ins may appear as a major problem in the automobile industry but they have not as yet appeared as a problem in the

shoe industry. Design piracy, for instance, necessarily is limited to those industries where style changes are important, so design piracy is one of the major problems in the women's-wear industry; to the best of my knowledge it hasn't yet appeared in the oyster-packing industry.

EXHIBIT No. 72



You get variations in product of the type that I have been describing as causing different focal points for problems. Similar situations arise with regard to the kind of customers to whom you sell. For instance, the pipe-organ industry which sells largely to churches has a particular credit problem which makes it a rather different industry in many respects from some other industries.

The problem of price discrimination depends largely on whether your customers are more or less the same sort of buyers or whether you have large buyers and small buyers. The problem of customer classification itself will emerge from the same sort of circumstance.

Character of the process may affect the kind of problem that the industry has. For example, the whisky industry with its problem of aging liquor has certain financial and labeling problems that are not present in a perishable-goods industry. The location of the industry will define perhaps whether it may have problems of freight classification, basing points, and similar considerations.

To give a more complete picture of the different points at which problems emerge in industries, I want to present a little experience from the N. R. A. record. The N. R. A. succeeded in writing something like 1,000 different kinds of trade practice provisions, and these were related to about 150 different trade practices. This means that the business community itself, when it came down here to write its codes, felt that at certain points its competitive problems and its problems of adjustment were particularly critical, and of those points it asked to have code provisions prepared.

Senator KING. Do you differentiate between the codes which were promulgated by the N. R. A. and the trade practices?

Dr. THORP. I am now talking about the trade-practice provisions which were written in the N. R. A. codes on the assumption that those trade-practice provisions are a reflection of the problems which each industry felt needed to be dealt with in its code of fair competition.

Senator KING. As I recollect, you had between 500 and 650 codes, and I was wondering whether the trade practices were supplementary to or part of the codes, or incorporated in the codes.

Dr. THORP. They were incorporated within the codes. I think this is one of our best sources for indicating the various kinds of problems and I would like very briefly to present a list of types of trade practice provisions in the codes. There were certain provisions relating to production and capacity control; some concerned with minimum prices; others having to do with indirect price concessions.

Now that is very important, because in many industries the problem of selling and of price determination, is a focal problem, and was concerned with the time of buyer's payments, guarantees, allowances, options and similar buyer's privileges; restriction on the supply of additional goods; restrictions on services to buyers; restrictions on financial assistance to buyers; restrictions on shipment concessions; restrictions on commission concessions; restrictions on payments for buyers' services; restrictions on accepting competitors' materials from buyers; restrictions on the sale of sub-standard or obsolete goods; restrictions on concessions beyond agreement; restrictions on forms of payment concealing concessions; restrictions on selling agreements, invoices, and so forth, concealing concessions; mandatory forms of agreement for prevention of concealed concessions; restrictions on granting of concessions to suppliers; and restrictions on the acceptance of concessions.

Now all these represented cases in which industries came to Washington and expressed the need to deal with a certain specific situation which was the strategic point at which they felt that competition needed support or correction.

Senator KING. Well, after all, did not those trade practices, and the codes, make for monopoly rather than competition? Did they not crystallize at an unjust and too high level the prices which they were charging the consumers? Wasn't that the purpose? I wouldn't have gone into this, except for my interpretation of your remarks.

Dr. THORP. I hope you will just interpret my remarks as indicating the points at which industry felt that its problem existed, the sort of situation in which it wanted assistance from the Government, and my intention in putting this in is to show the variety rather than intent.

Senator KING. It wanted to be freed from antitrust prosecution, or the charge that they had violated the letter and spirit of the Federal Trade Commission Act.

Dr. THORP. On nearly all of these points, any agreement on the part of the industry to deal with it would be a violation of the antitrust laws had there not been the exemption provided by the N. R. A.

Mr. ARNOLD. May I just, for the sake of the record add a word, that according to the antitrust laws as I see them, had the agreement been consistent with efficient or orderly marketing, it might conceivably have been held reasonable. In other words, I wouldn't like the record to show that these agreements would necessarily be in violation. I don't think you mean they would.

Dr. THORP. No; I think that is a very correct addition. Then there was a series of provisions designed to preserve or modify channels of distribution, another to preserve or modify geographical relationship——

Representative SUMNERS (interposing). What does "modify geographical relationships" mean to somebody doing business? What would that be?

Dr. THORP. That has to do with cases in which there may be price structures in which certain regions are established.

Representative SUMNERS. You mean somebody is going to trade in one region, and somebody else in another region?

Dr. THORP. One case of this type would be to require that people selling beyond the Rocky Mountains shall have a certain relationship in their price structure to the price at which they sell in the East. There are a number of different ways in which the codes were used in the hope of improving the position of this or that geographical group.

Representative SUMNERS. We can ask so[illegible]uestions later about that, can't we?

Dr. THORP. Yes, surely. Standardization, [illegible]mplification, and labeling; limiting coercive and predatory devices; [illegible]miting deception and misrepresentation; regulating bidding and awarding practices.

Mr. Chairman, I might submit this list rather than taking your time reading it, and it could go in the record.

The CHAIRMAN. That will be quite acceptable and it is so ordered.

(The list referred to "Analysis of Trade Practice Provisions in N. R. A. Codes" was marked "Exhibit No. 73" and is included in the appendix on p. 236.)

NRA CODES ILLUSTRATE DIFFERENCES IN PROBLEMS

Dr. THORP. To make certain this point is clear, I would like to take the first 10 codes and in 2 minutes' time, if I can do it, indicate the different points at which these industries seem to feel that their problem appears.

Senator KING. May I inquire, you are not presenting this, are you, and I am not criticizing you if you are, for the purpose of urging or recommending or having this committee approve of or recommend the restoration of the codes, or something similar to them, in order to avoid the antitrust laws or the Federal Trade Commission Act?

Dr. THORP. Senator, I am introducing this just as the best evidence that I know in brief space to show how different the industries are, how different their problems may be.

The CHAIRMAN. And this is merely a list of the problems as developed by industry itself, and not by you.

Dr. THORP. That is correct. This is an analysis from the codes.

I take the first 10 for this reason. After that patterns began to develop and industries began to follow other industries.

The CHAIRMAN. In other words, you are not trying to develop any state of opinion with respect to the desirability of any particular procedure toward these problems; you are merely analyzing the problems.

Dr. THORP. That is correct. I think this indicates what industry thought was the problem, at any rate.

In the first code, the cotton textile code, the heart of the code so far as trade practices was concerned was restricting machinery operation to two shifts. The cotton textile industry evidently felt that its problem was essentially centered around the use of the third shift.

The shipbuilding and repairs industry chose to outlaw sales below reasonable cost, rebates, discounts, service, and other things which might nullify the effort. In other words, its code centered around the price problem.

The wool textile code also had the shift problem.

Representative SUMNERS. How would you get at whether somebody was selling below a reasonable price?

Dr. THORP. That always was one of the problems. I think it would be appropriate to ask Mr. Henderson that.

Representative SUMNERS. I will ask Mr. Henderson that.

Dr. THORP. The electrical manufacturing industry code had a much more elaborate problem of control over the merchandising activities of its members, proscribing sales below cost, detailing the accounting methods to be used, fashioning an elaborate price filing system.

The coat and suit industry manifested an intense concern over high-pressure production methods, and used machine-hour limitations, though later they came in for additional limitations on style piracy.

The lace industry left the problem of fair-trade practices for later consideration.

The seventh code, however, the corset and brassiere code, foreshadowed N. R. A.'s eventual large-scale development of trade practice regulation, because it went in for selling below cost, advertising allowances, supplying advertising programs, free demonstrations, delivery charges, returned merchandise, credit on worn garments, discounts and terms, rebates, extra datings, P. M.'s—P. M.'s are cases

in which the manufacturer gives bonuses to sales people who sell his products, sales people in the retail store—merchandise exchange and consignment, standard containers, standard cost systems. All this just had to do with Division A of the industry, those selling to resellers, and they had an entirely separate and quite as long a list of rules for those manufacturing for stock.

Then the legitimate, full-length dramatic and theatrical industry was apparently not even aware of the trade practices of its predecessors, because it was concerned with problems such as booking agreements, offices, contracts, ticket scalpers, and standard forms of contracting.

The lumber and timber products industry, which struggled not only in its initial code but for 2 years to deal with is problems under N. R. A. went in for allocation of production quotas, the establishment of minimum prices and a whole series of supporting provisions with regard to prices.

Finally came the petroleum industry, whose code had an even more comprehensive program of distribution and sales control.

There you have the first 10 industries which came into the N. R. A. with such different problems and with concern about such different aspects of the total activity that I think it does demonstrate the fact that we have to think about these industries in considerable measure in terms of their variety rather than in terms of their similarity.

MEASURES OF CONCENTRATION

Dr. THORP. Now I come to the question of concentration in industries. That is different from the problem of size. It is essentially a problem in terms of individual products. One can have a large enterprise which may not be important in any industry or in any product if its activities are scattered widely. On the other hand a very small enterprise may be the dominant one for some individual product, so that it is important. As one thinks about the problem of concentration, and by that I mean influence or control over the production and marketing of the particular product, it is important to realize that that is not identical with size.

Of course, it is true that in many of our large industries you can't have concentration unless you have size. But I do want to emphasize the point that it is perfectly possible and probably true in many cases that we have small enterprises whose position in their own market is stronger than that of many of the larger enterprises in their market. Obviously we have a group of cases in the patents field where, by definition and with Government aid, you have complete dominance of a particular product by the holder of the patent, if it happens not to have been licensed so that others can produce it. In that case your single enterprise is the sole producer as a result of its patent right.

We have by no means completed our study of this problem of the degree of concentration. For the purpose of indicating something about the kind of problem it is, I have gathered together from various Government sources the measurements for a number of particular products. Again let me emphasize the fact of the importance of measuring this by products.

The figures which I am going to read will give the product, the number of companies which produce a given percentage of the output, and then the year and the Government authority. These are arranged alphabetically.

We start with virgin aluminum, one company, 100 percent of the output, 1937, authority, Federal Trade Commission.

Automobiles, three companies, 86 percent of the output, 1937, Department of Commerce.

Beef products, two companies, 47 percent of the output, 1935, Federal Trade Commission.

Bread and other bakery products, three companies, 20 percent of the output, about 1934, Federal Trade Commission.

Cans, three companies, 90 percent of the output. This is a recent figure; I don't know the exact year. Federal Trade Commission.

Senator KING. Is that the American Can Co ?

Dr. THORP. That might be one of the companies. The Federal Trade Commission did not supply me with the names of the individual companies.

The cement industry, five companies, 40 percent of the output, 1931, Federal Trade Commission.

Cigarettes, three companies, 80 percent of the output, 1934, Federal Trade Commission.

Coal (bituminous), four companies, 10 percent of the output, 1932, Bureau of Mines.

Copper, four companies, 78 percent of the output, 1935, Bureau of Mines.

Corn binders. That happens to be an agricultural implement. Four companies, 100 percent of the output, 1936, Federal Trade Commission.

Corn planters (perhaps that should have come first), six companies, 91 percent of the output, 1936, Federal Trade Commission.

Flour, three companies, 29 percent of the output, 1934-35, Federal Trade Commission.

Plate glass, two companies, 95 percent of the output, 1935, Tariff Commission.

Safety glass, two companies, 90 percent of the output, 1935, Tariff Commission.

Iron ore, four companies, 64 percent of the output, 1935, Bureau of Mines.

Oil wells, four companies, 20 percent of the output, 1935, Bureau of Mines.

Steel, three companies—this is a measure of capacity rather than production—60.5 percent, 1935, Tariff Commission.

Whisky, four companies, 58 percent, for the year September 1937 to August 1938, Federal Alcohol Administration.

Women's clothing, four companies, 2 percent of the output, 1935, Bureau of the Census.

Wood pulp, four companies, 35 percent of the output, 1935, Tariff Commission.

Zinc, four companies, 43 percent of the output, 1935, Bureau of Mines.

These happen to be figures that were available, and I introduce them to show first the variety in the record, running all the way from 100 percent down to 2 percent, a number of cases in the 30's, 40's, 50's, and 60's. I think that is one important thing to realize.

A second important thing to realize is that there are a number of industries in which we have several large enterprises in what might be described as a dominant position. I spoke somewhat earlier about

the fact that it seemed to be true that the large enterprises had emerged in clusters. It is not so much a matter—as a general matter at any rate it doesn't seem to be true—of one enterprise dominating the picture, but rather that there are several large enterprises.

Of course, that changes the whole competitive situation as one envisages it, because in a situation with several large enterprises the action of any one is a matter of extreme importance, and affects the whole market situation and permits certain further concentrations, of which I am going to speak in a moment.

EXTENT OF CHAIN ORGANIZATIONS

Dr. THORP. It is necessary, now, to carry this picture on to retail trade. So far as retail trade is concerned, the general picture of development of chain stores is that in 1935 we had slightly over 6,000 chains in the United States with about 140,000 stores. They did 22 percent of the total volume of business. I have in this chart the volume of business done by chains in certain of the more important industries.

(The chart referred to was marked "Exhibit No. 74" and appears on this page.)

EXHIBIT No. 74

IMPORTANCE OF CHAIN STORE SALES
BY SELECTED TYPES OF OUTLETS, 1935

KIND OF BUSINESS	TOTAL SALES (IN MILLIONS)	PERCENTAGE OF SALES MADE BY CHAINS
VARIETY STORES	$781	90.8
SHOE STORES	511	50.0
GROCERY STORES	2,203	38.2
DRUG STORES WITH FOUNTAIN	950	28.8
RESTAURANTS AND EATING PLACES	1,667	14.5
HARDWARE STORES & IMPLEMENT DEALERS	759	4.3
DRINKING PLACES	724	0.1

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Dr. THORP. The industry in which the chains do the largest volume of activity is variety stores, more usually called the 5-and-10-cent stores, where they do about 90 percent. Next come shoe stores, 50 percent; grocery stores, 38 percent; drug stores and fountains, 28 percent—varying degrees of chain operation.

Representative REECE. Do variety stores include such stores of which J. C. Penney, for instance, is representative?

Dr. THORP. No; I believe J. C. Penney would be included in general merchandise stores. The variety group would include such stores as F. W. Woolworth, S. S. Kresge Co., and G. C. Murphy Co.

Senator KING. How do you differentiate between the variety and the chain, if you do differentiate?

Dr. THORP. Variety is a definition like shoe or grocery, so that the other 10 percent would be independent, single independent variety stores, rather than chain stores.

SUPPLEMENTAL FORMS OF CONCENTRATION

Dr. THORP. In considering the measures on concentration it is necessary to realize that there are various other elements in the economic system, which may reshape and interrelate the single enterprises which I have been talking about, certain relationships which may be regarded as additional or alternative forms of concentration.

(Representative Sumners now presiding.)

For example, there are various financial interlocking relationships, spheres of interest, stock ownership, interlocking directorates and such things which complicate the problem of concentration.

Beyond that there are a number of ways in which enterprises act as though they were integrated for certain functions. As an illustration, consider the voluntary group of retailers. A voluntary group of retailers is a group in which each store continues its independent existence, but purchases through a central agency, so that from the point of view of purchasing they have collective action. They purchase more or less as a chain would purchase, but from the point of view of merchandising they operate individually. So that we have there a partial kind of concentration.

There are, according to an estimate made by the American Institute of Food Distribution in May 1936, 809 of these voluntary cooperative groups with 110,000 retailer members, and they claim that they have more members at the present time than the chain stores have outlets.

A third form of concentration for the purpose of dealing with specific functions is the trade associations. There are approximately 7,800 trade associations in the United States, 1,800 of which are national, 6,000 State and local groups, that figure not including chambers of commerce. It includes only organizations by industries or trade.

In those cases you have organizations which are acting for the industry with respect to certain functions. It may be research. It may be that they run a single research organization for the entire industry. In that way, therefore, you get collective action at that point.

It may be advertising or it may be the collection of statistics, or an analysis of the current business situation in the industry.

On the point of trade associations, I merely wish to raise it because we hope to have a great deal more information available in the Department of Commerce shortly.

Senator KING. You haven't indicated the number of constituent parts of the trade associations or units within each or within all of these trade associations.

Dr. THORP. I am not able to do that now, although I hope to be able to do it at a later time.

Senator KING. It would run up into the tens of thousands, would it not?

Dr. THORP. I think it would be true to say that there are more members of trade associations than there are manufacturers, because many of them belong to several trade associations.

COMBINATIONS AND CONSPIRACIES IN RESTRAINT OF TRADE

Dr. THORP. The fourth point that must be made has to do with regard to forms of concentration which emerge through agreements and through unlawful combinations. There is no way, of course, in which one can measure that particular thing. How much actual conspiracy, combinations in retraint of trade, there is in this country is something about which I, at least, would not be in a position to make any estimate. It is possible to say that it exists, and I do want to present an indication of the forms which it seems to take.

Mr. E. B. George made a study of recent complaints which had been made by the Federal Trade Commission and the Department of Justice with regard to such violations of the Sherman Act, and I just wish to summarize briefly the kinds of situations which were found to exist.

Senator KING. Was he a representative of the Department of Justice or the Department of Commerce, or the Federal Trade Commission?

Dr. THORP. Mr. George is associated with Dun & Bradstreet. This was published in an article in Dun's Review. It is based on the official records of the complaints made, which are generally available. Three of the complaints had to do with labor coercion; they might be roughly described as racketeering cases which come under the anti-trust laws.

I am going to talk here about the kind of complaint which appeared in 56 cases. Thirty-three of the complaints were in the field of price control; 26 cases where manufacturers had established some form of price control, 5 where distributors had established some form of price control, and 2 where manufacturers and distributors together had established some form of price control.

Twenty-seven had to do with the control of distribution channels, which has come to be one of the essential issues with regard to the operation of business. There were 6 cases where manufacturers were in agreement with regard to controlling distribution channels, 5 where individual manufacturers were trying to do it, 2 where manufacturers were applying pressure on other manufacturers, 10 where distributors were in the combination, and 4 where manufacturers and distributors were in it together.

Senator KING. Were all these complaints made to the Federal Trade Commission?

Dr. THORP. These were complaints issued by the Federal Trade Commission or the Department of Justice. There were three cases that might be regarded as special cases. One had to do with the development of special brands in order to obtain exclusive control; one had to do with regard to controlling the available locations for doing this particular activity, and one had to do with a group of wholesalers who were in combination trying to represent themselves as manufacturers.

I introduce this into the record merely because it is the only way I know, and the only possible way in which one can indicate the fact, that there is in our system some degree of combination which is going on which would fall in the category of violations of the anti-trust laws as they now exist.

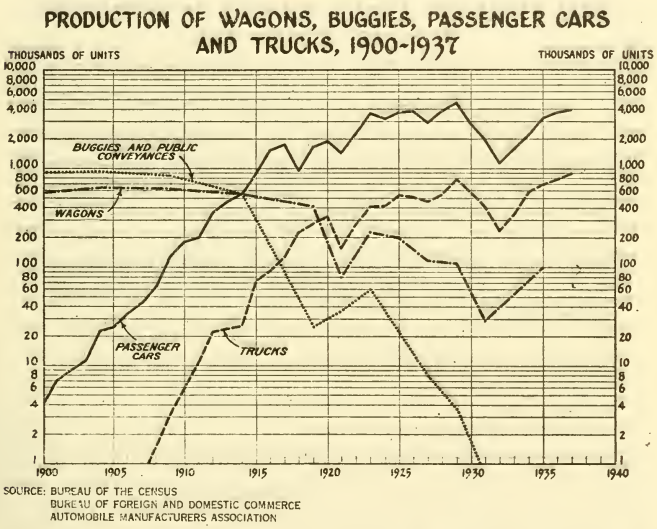
Senator KING. Were any of those complaints predicted upon violation of the Robinson-Patman Act or the Miller-Tydings Act?

Dr. THORP. No; those were not included. I shall now briefly present some charts which indicate a different aspect of this situation.

INTER-INDUSTRY COMPETITION

Dr. THORP. Here we have the fact that industries are competing with each other, and, therefore, the measurement of concentration in a particular industry does not show the whole picture. One must take into account the fact that competition is continually going on as between industries.

EXHIBIT No. 75



The next chart shows what happened as between vaious types of transportation, the buggies and public conveyances (these public conveyances are horse-drawn public conveyances) and the wagon industry, passenger car industry, and the truck industry. I will not elaborate on it except as an indication of various competing groups and what one industry may do to another industry.

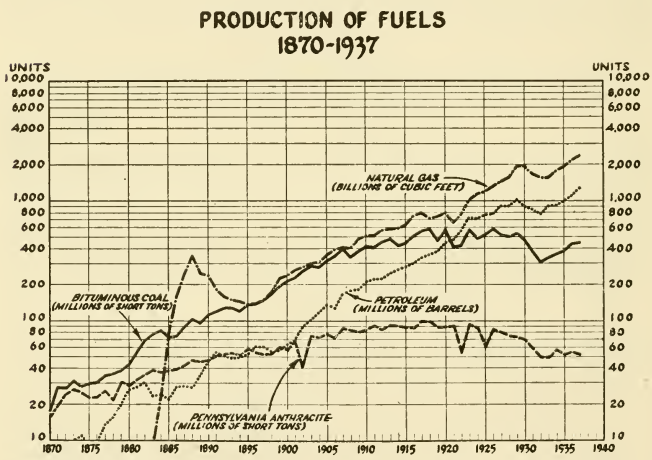
(The chart referred to was marked "Exhibit No. 75" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 237.)

Dr. THORP. Here are various fuels as shown in this chart, "production of fuels." The dark line is bituminous coal; the dashed line is anthracite; the petroleum industry is the one which comes up so rapidly here, dotted; the natural gas industry is the dot-and-dash line. These are a few industries which are in fairly active competition with each other.

(The chart referred to was marked "Exhibit No. 76" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 238.)

Dr. THORP. There are various sources of sugar. The top line represents sugar shipments to the continental United States, or imports of sugar; this middle line represents the cane-sugar production, and the dotted line is our beet-sugar production.

EXHIBIT No. 76



SOURCE: BUREAU OF MINES

I think it is particularly interesting to note that apparently for a period of time the domestic cane-sugar-production industry was losing ground—from somewhere around 1905 until 1926. The more recent period shows a decided advance in cane sugar production, but not so much at the expense of the beet-sugar industry as at the expense of sugar imports. The industry picture is a composite of these groups which are basically different groups, these being foreign enterprises, and cane sugar and beet sugar being produced in different sections of the country and by different processes.

(The chart referred to was marked "Exhibit No. 77" and appears on p. 143. The statistical data on which this chart is based are included in the appendix on p. 240.)

Senator KING. The imports do not include the importation of sugar from Puerto Rico or the Virgin Islands, from territory under the jurisdiction of the United States. They ought not to be classified, it seems to me, as imports.

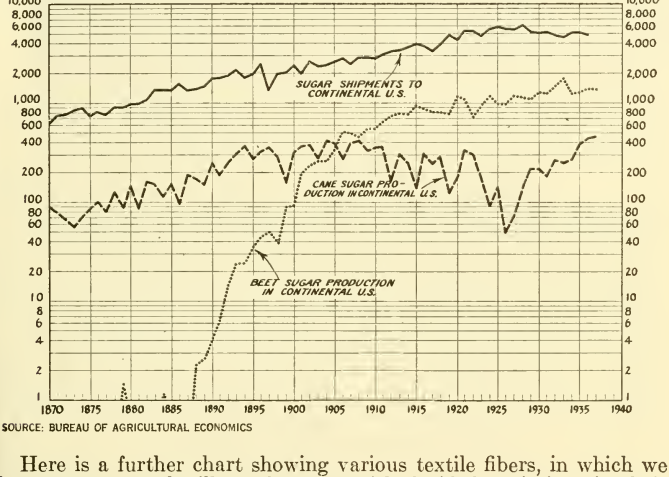
Dr. THORP. On this chart those are included as part of the imports. These are sugar shipments to the continental United States.

(Senator O'Mahoney resumed the chair.)

The CHAIRMAN. That was called the offshore sugar?

Dr. THORP. That is right.

EXHIBIT No. 77



Here is a further chart showing various textile fibers, in which we have cotton, wool, silk, and rayon, with decided variations in their records, the extraordinary thing being the way in which rayon has moved up and the fact that in recent years there has been a decided shift in the trend of the silk industry.[1]

Of course, all these are more or less in competition with each other, and, therefore, if one were to talk about concentration in control in any particular one of them, there still remains a problem of competition with the others as part of the picture.

As far as industries are concerned, therefore, the sort of picture which I hope I have presented has been one which shows the difficulty of defining an industry, which shows that as far as industries are concerned, we have in this country varying degrees of concentration, but there are a considerable number of situations in which a small number of large companies dominate the industry, and that the patterns behavior of industries are extremely varied.

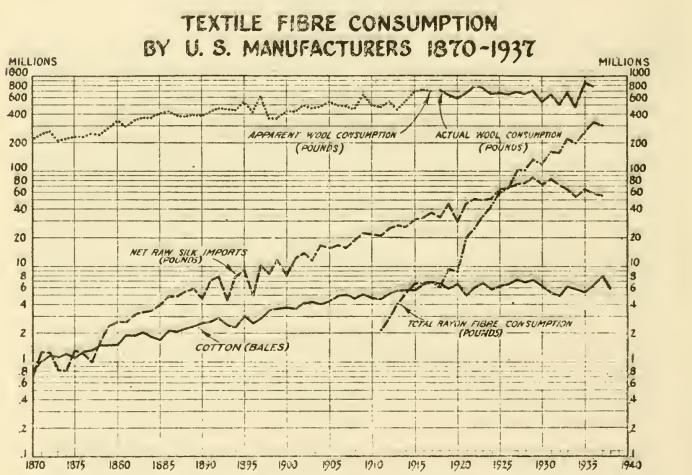
[1] See also pp. 39 and 40, supra.

(The chart referred to was marked "Exhibit No. 78" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 241.)

Senator KING. When you use the word "dominate," do you mean in price or in quantity, or in determining the policy of the entire industry?

Dr. THORP. The measures which I am introducing are measures in terms of share of total production. One would have to go a good deal further to know the degree to which any one or several companies dominated the price picture or the marketing structure.

EXHIBIT No. 78



GENERAL SHIFTS IN THE ECONOMY

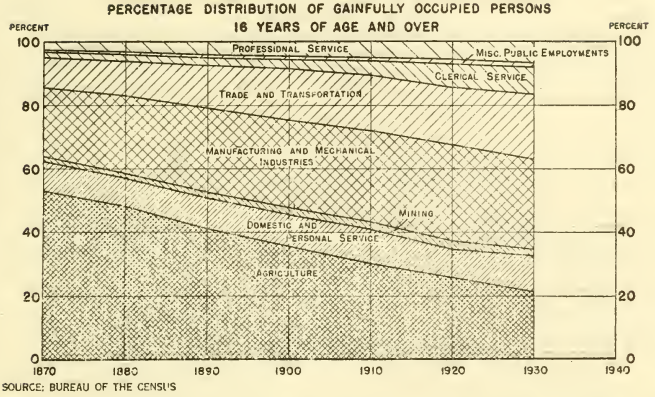
Dr. THORP. There are certain broad influences that need to be kept in mind as one thinks about our economic structure. There are basic changes, there are things which require continual adjustment and which explain a good many of the things which have happened.

I shall not take the time to elaborate on them, but rather to present them and perhaps at some later time they can be analyzed more fully.

Here is a chart which shows the percentage distribution of gainfully occupied persons 16 years of age and over in the United States. Of course, the striking thing is the fact that we have changed from a country where 53 percent of the people were employed in agriculture to a country where 21 percent are employed in agriculture. That is the outstanding thing that appears in that chart. The absorption has, of course, appeared in a number of different points scattered through all the other types of activities, but our basic characteristic is evident in the decline in agriculture.

(The chart referred to was marked "Exhibit No. 79" and appears on p. 145. The statistical data on which this chart is based are included in the appendix on p. 243.)

EXHIBIT No. 79



Dr. THORP. Now, let us take the national income which. Mr Lubin talked about yesterday in terms of what people were able to get, and think about it in terms of where it comes from.

The next chart breaks this down into three broad groupings: The commodity-producing division, the commodity-handling division, and the service division of our national income. I don't want to present that as being anything very final or very exact, but it is a useful picture of just what has happened over this period from 1919 to 1937.

You notice, for example, how the depression was primarily a depression in the commodity-producing-division group—not exclusively, but the narrowing was a narrowing in that particular area. Notice that over the period of time there is an upward tendency in the service division. That is an increasing part of our activities.

(The chart referred to was marked "Exhibit No. 80" and appears on p. 146. The statistical data on which this chart is based are included in the appendix on p. 243.)

Dr. THORP. Just to show the break-down of these things, here is a chart which takes the commodity-producing division and gives you its component industries. Manufacturing, which is the biggest part of our sources of national income, showed the widest fluctuations; agriculture is not very steady; construction and mining are less important but show considerable variation in their behavior.

(The chart referred to was marked "Exhibit No. 81" and appears on p. 146. The statistical data on which this chart is based are included in the appendix on p. 244.)

Dr. THORP. If we take this chart which is the commodity-handling division, you can see the fluctuations in trade and transportation and other public utilities, which is a more stable part of the picture.

(The chart referred to was marked "Exhibit No. 82" and appears on p. 147. The statistical data on which this chart is based are included in the appendix on p. 244.)

EXHIBIT No. 80

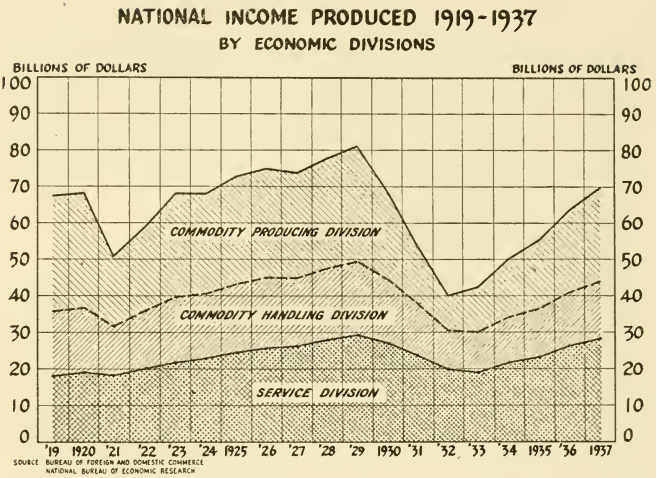
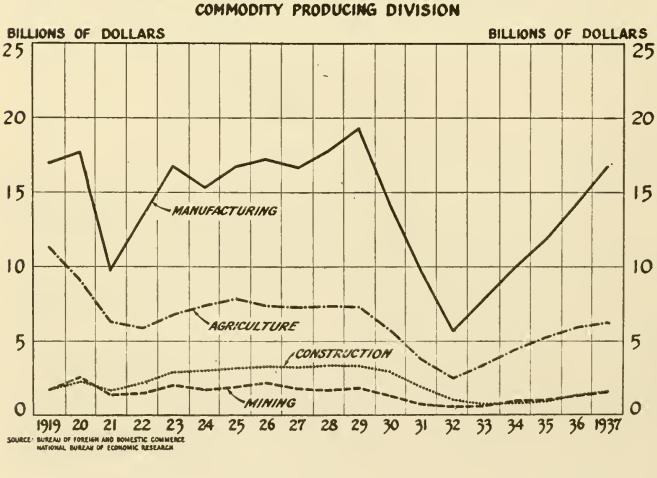


EXHIBIT No. 81

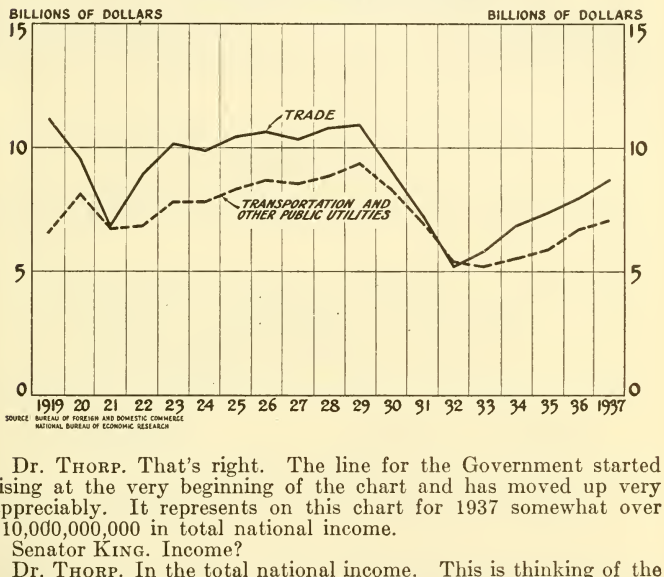


Dr. THORP. In this chart, the service division broken down; service, finance, Government, and miscellaneous, which comprises items not included elsewhere.

(The chart referred to was marked "Exhibit No. 83" and appears on p. 148. The statistical data on which this chart is based are included in the appendix on p. 245.)

Senator KING. That chart shows the line for the Government continuing to rise.

EXHIBIT No. 82



Dr. THORP. That's right. The line for the Government started rising at the very beginning of the chart and has moved up very appreciably. It represents on this chart for 1937 somewhat over $10,000,000,000 in total national income.

Senator KING. Income?

Dr. THORP. In the total national income. This is thinking of the Government as an agency which pays wages and salaries and employs people, and therefore is a producer of part of the national income.

Senator KING. Would that include States and counties?

Dr. THORP. That includes States, county governments, local governments.

Now, in order to get more clearly the comparison, this chart, which shows the sources of national income, gives the comparison between 1919–21 and the 1936–37 distribution.

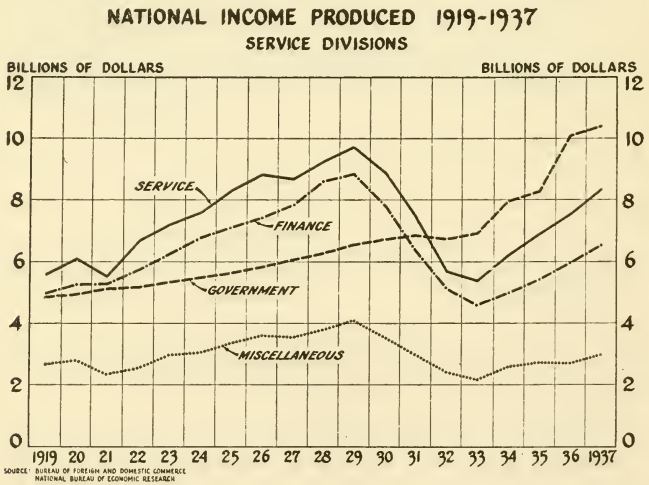
(The chart referred to was marked "Exhibit No. 84" and appears on p. 149.)

Dr. THORP. You can see that agriculture has declined in importance from 14 percent to 9 percent as of the recent period. Manufacturing has declined slightly; transportation has declined a bit; in fact, the outstanding increase is this expansion for government from 8 to 15.2 percent.

These changes which take place, of course, are changes which require adjustments of one kind or another. Obviously such an important thing as the decline in agriculture is of major significance from the point of view of the balance in our national economy.

Senator KING. Dr. Thorp, before we meet tomorrow I wish you would examine again that line showing the Government income, as you call it, because my recollection is that it greatly exceeds $10,000,000,000. We collected $6,200,000,000 on the tax bill for last year and we had a deficit of four billions. Our national expenditures were six plus four billions, approximately; then the States, counties, and political subdivisions ran almost parallel, if they did not exceed the Federal.

EXHIBIT No. 83

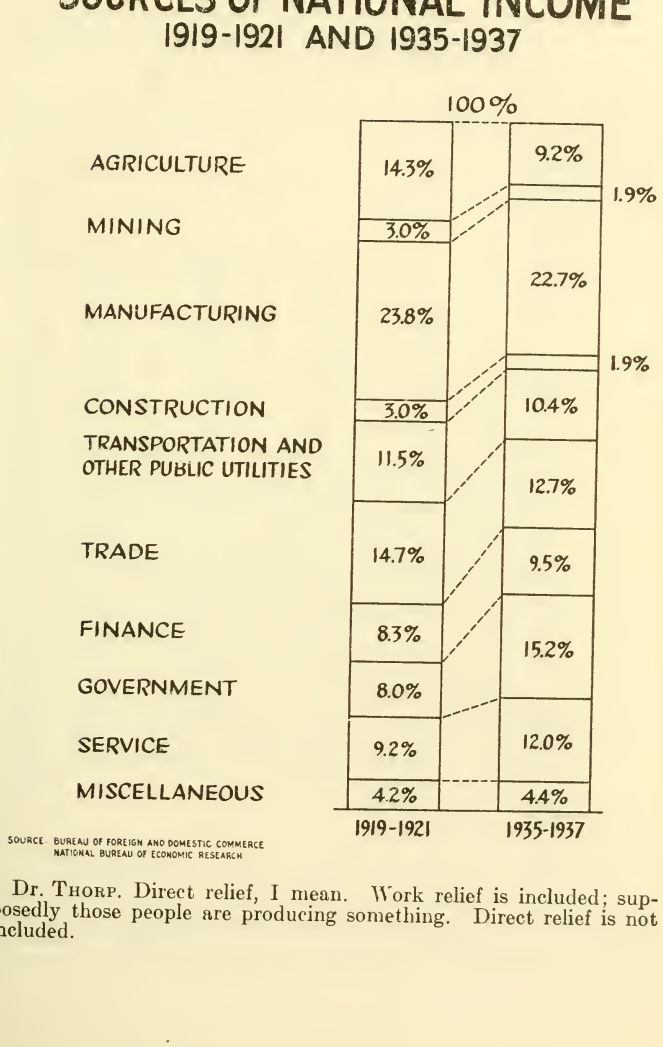


Dr. THORP. There are certain reasons why you can't take the total. You may recall when Dr. Lubin was talking about national income yesterday the question was asked, and I think he explained, that you had to take the net. You had to deduct the cost of any materials, such things that were purchased, so that you wouldn't get double counting. I suppose the major explanation of that difference is the fact that local governments in the construction of highways, and so forth, acquire materials which may be perhaps located in some other industry.

The second thing is that relief payments are not included as part of the national income estimates.

Senator KING. There would be two or three billion dollars there.

EXHIBIT No. 84



Dr. THORP. Direct relief, I mean. Work relief is included; supposedly those people are producing something. Direct relief is not included.

Senator KING. It occurred to me that if you were indicating the income of all government, Federal, State, and political subdivisions, you ought to include all that had been expended by it, but you say that is included by reason of the fact that some of the expenditures were for materials, and they might be included in some other category.

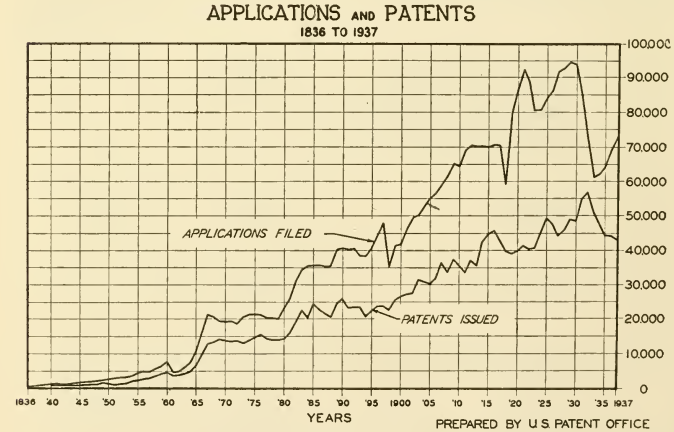
THE IMPACT OF INVENTION

Dr. THORP. That is correct. Now I wish to indicate briefly certain types of situations which play on the business community and disturb it or make necessary readjustments here and there.

A basic one is changes in technology, and for the purpose of indicating that I have a chart on applications and patents. The top line represents applications for patents filed with the United States Patent Office, the bottom line, patents issued. You can see that as time has gone on the applications for patents have increased. They were very large during the twenties and the patents issued have steadily increased.

(The chart referred to was marked "Exhibit No. 85" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 245.)

EXHIBIT No. 85



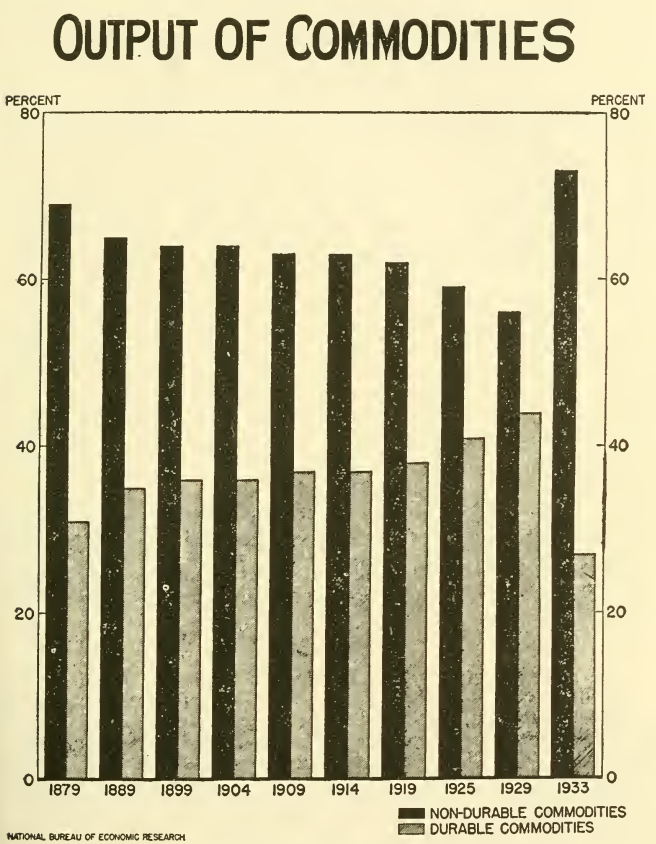
Dr. THORP. Of course there always is some lag because there is a delay of several years, usually, between the time when applications are filed and the time when patents can be finally issued.

This continual impact of technical change has, of course, the power of building new industries and destroying old industries and changing processes. Much of it comes out of business itself, which has done the work, and yet its reaction is back on business, and perhaps on other parts of the business community. It creates problems of capital investment and problems of survival which are extremely important.

Here is another thing which Dr. Lubin talked about yesterday, "the increasing importance of durable goods." [1]

(The chart referred to was marked "Exhibit No. 86" and appears on this page. The statistical data on which this chart is based are included in the appendix on p. 246.)

EXHIBIT No. 86



Dr. THORP. That has not only importance from the point of view of the consumer but from the point of view of the producer, from the point of view of the businessman. It is goods of this sort, for instance, which give rise to the whole problem of installment selling.

Installment selling is essentially related to durable goods. It is mostly a matter of automobiles. At least 62 percent of installment

[1] Supra, pp. 27 and 28.

selling last year was in the field of automobiles. But it is important in furniture and household appliances. That is related to the problem of durable goods, and of course it is true that many durable goods are high-priced items, large-priced items perhaps I should say, and therefore the purchaser has a problem of selling which is rather different from items on which there are small prices.

Also, there is a matter of making only one sale, and that raises a rather different problem for the businessman than on perishable items, consumers' goods of a kind in which he wishes to make frequent sales.

Here is another chart which shows the production of durable and nondurable goods—since 1929. Durable goods tend to be postponable goods. Your purchase can wait, and once you have purchased it you don't have to come in the market again within a short time. The implication back of this it seems to me, is fairly clear when you think of the difference to an economy as between my buying 25 cents worth of ice every day, and my buying 20 tons of ice, or whatever it may be, in one purchase when I buy an electric refrigerator. That one purchase is equivalent to 20 years—if there is a manufacturer in the house we can get the right figure—or 30 years, or whatever it may be, of ice. I have done that in one purchase.

Of course, if I am buying ice every day, right on through, there is a steady employment and a steady economic activity, but the introduction of this durable item raises new problems. If many people buy all their ice at once in the form of electrical refrigerators, and do it when they have money, the net result is going to be, obviously, this kind of behavior with regard to purchases at some later date.

(The chart referred to was marked "Exhibit No. 87" and appears on p. 153. The statistical data on which this chart is based are included in the appendix on p. 247.)

Dr. THORP. There is another kind of change that I want just to cite, and that is the increased importance of selling. It used to be true that the businessman's major problem was to make the goods. Today his major problem is to sell them. That means a shift in interest and in importance and in the kind of problems away from production problems to merchandising problems, and that raises a whole series of questions.

FOREIGN TRADE

Dr. THORP. Here is the effect of foreign business. This is a chart on United States Foreign Trade. The exports and imports are presented here, and in this little insert chart is the ratio of exports to the total production of movable goods—that is, of goods that could be exported. You will notice that going through the period along in the twenties we were exporting about 10 percent of the available movable goods. Since then we have exported between 7.5 and 6.6 percent.

(The chart referred to was marked "Exhibit No. 88" and appears on p. 154. The statistical data on which this chart is based are included in the appendix on p. 248.)

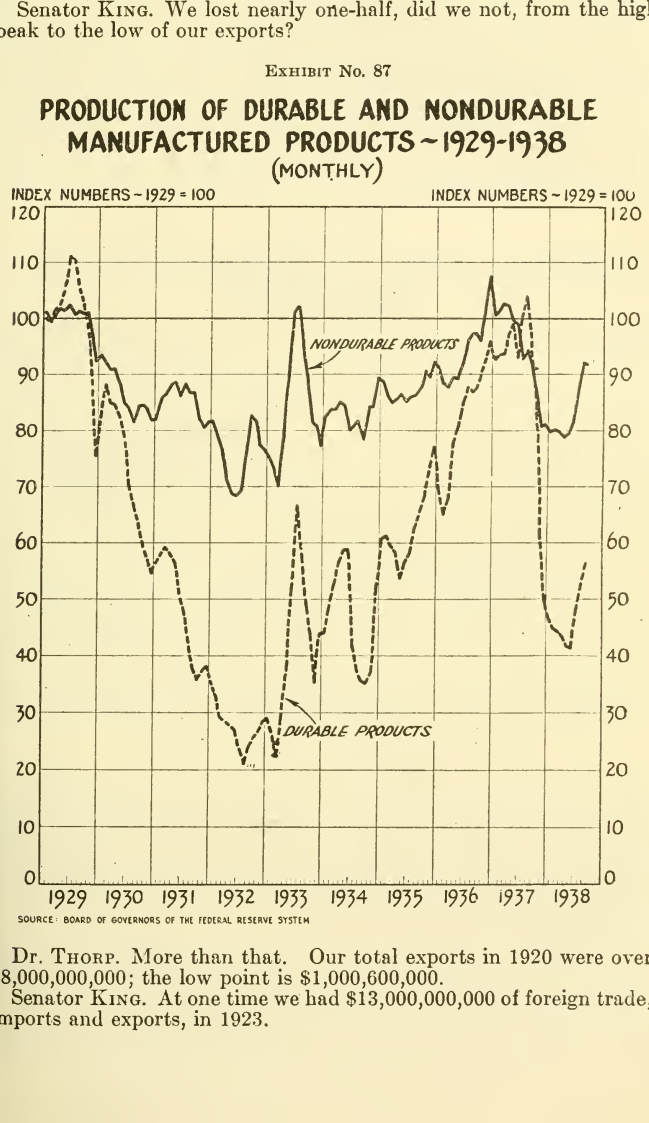
Senator KING. That includes all exports?

Dr. THORP. This includes all exports and all imports. Foreign conditions, of course, affect us through our exports and imports; also through capital markets; also through the price structure, in that prices

in other countries, even if goods do not flow to us, by their very threat to us, may affect our own price structure.

Senator KING. We lost nearly one-half, did we not, from the high peak to the low of our exports?

EXHIBIT No. 87



Dr. THORP. More than that. Our total exports in 1920 were over $8,000,000,000; the low point is $1,000,600,000.

Senator KING. At one time we had $13,000,000,000 of foreign trade, imports and exports, in 1923.

Dr. THORP. That is in 1920, and if you add imports and exports in 1932, the total was 2.8 billion.

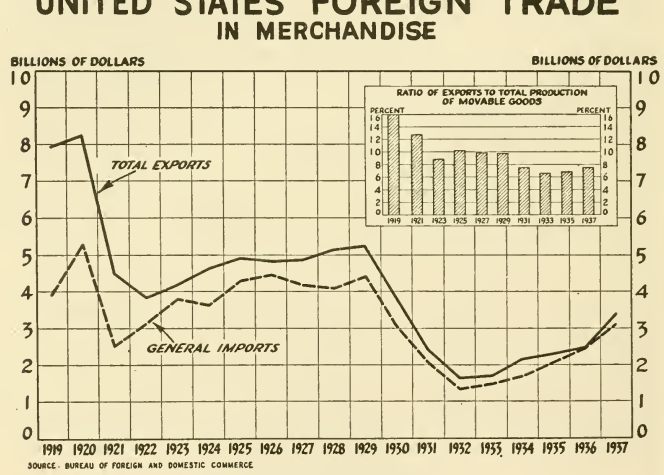
Senator KING. Obviously, the loss of that export market had serious repercussions upon our whole economy.

Dr. THORP. This had very serious repercussions. The sending of these goods abroad, of course, had very definite supporting effects on industrial activity; to the degree to which the payment for them was never collected there were repercussions on our financial circles as well.

Senator KING. We not only lost our goods but we loaned $2,000,000,000 one year for them to buy our goods, and lost that, did we not?

Dr. THORP. We certainly did.

EXHIBIT No. 88



THE IMPACT OF WAR

Dr. THORP. I would like also to introduce as another disturbing factor the factor of war or the threat of war. When I showed you the construction charts you could see how in the twenties we were active making up for what had been the restrictions of the war period. While this chart is here I can show you the effects of the war, because this 1919–20 picture was very definitely a picture which was affected by that situation.

(The chart referred to was marked "Exhibit No. 89" and appears on p. 155. The statistical data on which this chart is based are included in the appendix on p. 249.)

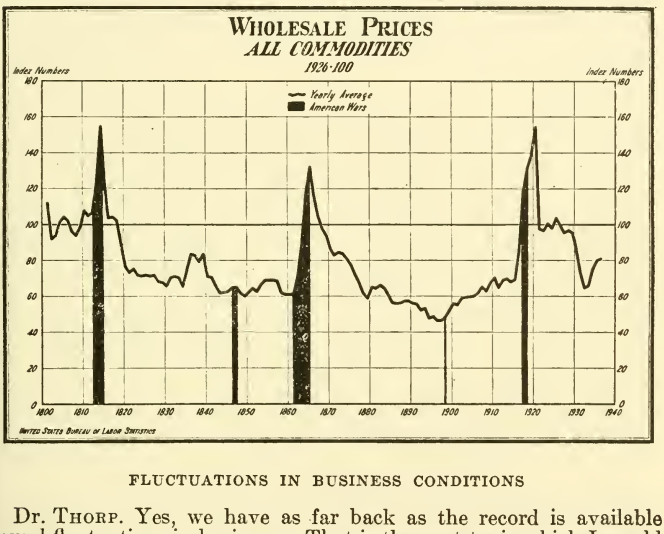
Dr. THORP. Here is another way of picturing the effect of war, through its disturbing effect upon the general level of prices. We had the great peaks and great disturbances of 1815, 1865, and in the last war period. In other words, from the point of view of disturbance and of problems of adjustment, war, and to a considerable degree the threat of war, is an important factor in the whole economy.

Senator KING. Doctor, this is not quite germane. In your surveys you discovered, did you not, that we have had rather serious periods of depression; back in 1837, 1847, 1857, 1873, and 1893, and then the last few years.

Dr. THORP. Yes, sir.

Senator KING. So recessions or depressions are a part, at least have been a part, of our economy for many years.

EXHIBIT No. 89



FLUCTUATIONS IN BUSINESS CONDITIONS

Dr. THORP. Yes, we have as far back as the record is available found fluctuations in business. That is the next topic which I would like to suggest as one of the disturbing elements in the operation of the individual businessman, the fact that while he is a part of it, nevertheless to him come these fluctuations in business and he is very closely related to all other businessmen.

I once made a study of the history of business conditions and in the early years of the nineteenth century we frequently would have to say that the country was prosperous in the South and depressed in the North or vice versa.

Nowadays the effect of general business conditions sweeps throughout all the country so that the pattern is apt to be very much the same, although I think just to take one illustration, it is worthy of note that the great State of Texas seems to have been able in the last few

months to have stood out decidedly above the general trend of the Nation with regard to its business conditions.

If you take indexes of various sections of the country, most of them are around 75 at the present time as compared with 1928, 1929, and 1930. But Texas is somewhere around the level of that earlier period. Florida is the same way, but basically the pattern is the same throughout the country and businessmen themselves find much of their problems of adjustment coming out of the general pattern.

THE NEED FOR CONTINUAL ADJUSTMENT

Dr. THORP. Finally, as an influence that is disturbing, there are changes in government policy. It is possible to make adjustments, of course, to any situation. One gets used to it, but any change in the situation is apt to be a disturbing factor, and uncertainty makes it even harder to plan. In this whole situation I think one has to feel that we need rather tremendous methods of keeping in balance. It is a very complicated machine. It has very different parts, but the parts are very closely related to each other, and so many different disturbing elements come into play that we need very fine forms of adjustments.

We need lots of valves that are working well, and I think one way of putting this whole problem is to find out at what points we are getting adjustments, where do we have flexibility and where do we not have flexibility in the process of keeping in balance.

There is no simple answer, as I think I have indicated here in this testimony. It is a complicated system, and its parts are very different, and without a pretty definite understanding of how these parts work and what kind of disturbing factors come in—and when I use the word "disturbing" they may be stimulating or retarding factors—it is difficult to appraise the structure.

We need to know more about how those various factors work, and the variations within the whole system. The parts are all here. I think one way of putting the problem is how to make the various parts work steadily at maximum efficiency.

Senator KING. A higher degree of civilization makes for the condition you just described, in contradistinction to primitive conditions or where you have dictatorship.

Dr. THORP. Complexity is very definitely a form of life which emerges as civilization advances and along with specialization of product and enterprise comes a specialized type of problem so that dealing with the problem becomes more difficult as well.

Senator KING. Mr. Chairman, I think Dr. Thorp deserves a vote of thanks.

The CHAIRMAN. We feel very grateful, Dr. Thorp, for a very excellent presentation.

The committee will stand in recess until tomorrow at 10:30 a. m., when Mr. Leon Henderson will make a brief summary.

(Whereupon, at 4:45 p. m., a recess was taken until Saturday, December 3, 1938, at 10:30 a. m.)

INVESTIGATION OF CONCENTRATION OF ECONOMIC POWER

SATURDAY, DECEMBER 3, 1938

UNITED STATES SENATE,
TEMPORARY NATIONAL ECONOMIC COMMITTEE,
Washington, D. C.

The Temporary National Economic Committee met, pursuant to adjournment yesterday, at 10:30 a. m. in the caucus room of the Senate Office Building, Senator Joseph C. O'Mahoney, presiding.

Present: Senators O'Mahoney (chairman), King, Borah; Representatives Sumners, Reece, Eicher; Messrs. Lubin, Hinrichs, Douglas, Frank, Patterson, Arnold, Berge, Ferguson, Davis, Oliphant, Peoples, Henderson.

Present also: Directors of Studies Dr. Willard Thorp, Commerce; Mr. Hugh B. Cox, Justice; Mr. Willis J. Ballinger, Federal Trade Commission; Mr. Thomas C. Blaisdell, Securities and Exchange Commission; Mr. J. J. O'Connell, Treasury; Miss Aryness Joy, Labor.

The CHAIRMAN. The meeting will come to order. Gentlemen, will you take your seats?

On Thursday and on Friday, Dr. Lubin, of the Bureau of Labor Statistics, and Dr. Willard Thorp, who has been associated with the Department of Commerce in the studies which have been going on, gave testimony to the committee setting forth the character and changes of our economic system. Today Leon Henderson, executive secretary of the committee, will attempt to pose the questions which are suggested by the testimony of Thursday and Friday. Mr. Henderson will now take the stand.

TESTIMONY OF LEON HENDERSON, EXECUTIVE SECRETARY, TEMPORARY NATIONAL ECONOMIC COMMITTEE, WASHINGTON, D. C.

Mr. HENDERSON. Senator O'Mahoney——

The CHAIRMAN (interposing). Won't you first tell us who you are? There may be some people who may be a little bit uncertain.

Mr. HENDERSON. Well, I am at present executive secretary of the Temporary National Economic Committee. Immediately prior, I was consulting economist for W. P. A. During the 1936 Presidential election campaign, I was working with the Democratic National Campaign Committee. Prior to that I was economic adviser to the United States Senate Committee on Manufactures. Prior to that I was in various positions with the N. R. A., having been economic adviser to General Johnson, and later to the National Industrial Recovery Board, and a member ex officio of the Industrial Recovery Board, as well as director of the Research and Planning Division of

N. R. A. during that period. Before that I was director of the department of remedial loans of the Russell Sage Foundation.

The CHAIRMAN. And for this committee you have been acting principally as coordinator of the activities of the various executive departments which are represented on the committee and of the work undertaken by other executive agencies at the request of the committee.

Mr. HENDERSON. That is correct, and I think it ought to be said that practically everything which I am covering today is entirely new for the committee, and if there is a responsibility involved, it is mine.

THE AMERICAN ECONOMY

Mr. HENDERSON. In essence, Dr. Lubin has given us a picture of the American economy in terms of its performance, and Dr. Thorp yesterday in very unique terms described the machinery of production and some of the operating difficulties which confront the business man as an agent of production.

We are left with a tremendous sense of appreciation for the degree of coordination which still remains in an economic system that could produce $62,000,000,000 of national income this year, and about $70,000,000,000 last year.[1]

But appreciation gives way to bewilderment and perplexity when we remember losses like $120,000,000,000 of wages and salaries,[2] $38,000,000,000 of farm income[3] and $20,000,000,000 of dividends[4] in the last 9 years.

These are dollar signs of measurement. In human terms the losses are measured by the millions of unemployed.[5] I ought to emphasize that Dr. Lubin's figures on losses are computed on a very conservative basis, that of 1929. He did not, as he properly might have, allow either for the natural increase in population which we know has taken place since 1929, nor did he give in his computations any consideration to the growth line in the American economy over a long period of years.

I want to refer to that growth line because it has been the outstanding measurement of the growth of the American economy. This line here[1] shows what has taken place in the growth of national income.

The CHAIRMAN. May I interrupt to ask you to identify the chart for the benefit of the record.

Mr. HENDERSON. I am now referring to the chart, "United States National Income," [1] and if we had also the chart showing the growth in industrial production, it would follow, of course, that line, since this is a dollar equivalent of the physical production. If, however, we assume that America was moving up like this,[6] we would assume that by 1938, if the same rate of exports had persisted, if the same adjustment had taken place as was taking place in the most productive part of the 1920's, we would probably be in terms of 1929 dollars at around $94,000,000,000 of national income.

Senator KING. Doctor, you do emphasize, do you not, the relation between the United States and other governments, the rest of the world? That is to say, the rest of the world plays an important part in our economic development.

[1] See exhibit No. 5, supra, p. 5.
[2] See exhibit No. 10, supra, p. 14.
[3] See exhibit No. 12, supra, p. 16.
[4] See exhibit No. 11, supra, p. 15.
[5] See exhibit No. 9, supra, p. 13.
[6] Referring to top line of exhibit No. 5, supra, p. 5.

Mr. HENDERSON. I hope to come to a part of that before I am through, Senator King.

If Dr. Lubin had very properly estimated this as a loss, and it is a very real loss when you come to think in terms of unemployment, he might have estimated, as Dr. L. H. Bean of the Department of Agriculture has estimated, that the loss in national income has been $293,000,000,000 since 1929.

The CHAIRMAN. But Mr. Henderson, is there any reason to believe that this expansion which is represented on this chart, "United States National Income," as rising from about $10,000,000,000 in 1890 to 68 or 69 billion dollars in 1920, and 81 billions in 1929, could by any possibility have continued at that rate?

Mr. HENDERSON. It depends upon your assumptions, Senator O'Mahoney, If you take the rate of growth that was persistent during the 1920's, it is fantastic to consider the degree to which the national income might have gone. If you translate it in terms of what are the markets for our goods, it is fantastic also.

The CHAIRMAN. What I have in mind, and I raise this not in an argumentative way but merely to indicate my own belief that Dr. Lubin's figures were more realistic, is this:

Yesterday Dr. Thorp presented a chart showing the first 10 industries in the United States in two separate periods.[1] The second period showed that the motor-car industry had become the first industry in the United States, whereas in the earlier period it wasn't represented among the first 10 at all.

Now, I have the notion that a large part of this expansion between 1915 and 1929 was probably due to the expansion of the automobile industry, and we also know that there is a point of saturation in every market, and it is possible that in 1929 that point had come in the automobile industry where it was no longer possible to multiply sales without doing what Dr. Lubin indicated ought to be done, increasing the purchasing power of the lower-income groups.

I cite this merely to indicate, as I say, my own belief that the figures of Dr. Lubin were a little more realistic.

Mr. HENDERSON. I am afraid that I will have to take a different interpretation of realism in terms of two or three things. First, the dynamics of the capitalistic system of production require that a certain amount of savings be employed in expansion of the producing system, and if that is true, and if consumption keeps pace with that—and I have no doubt as to the possibilities of expansion of consumption—then a moderate rate of growth is not only realistically to be assumed, but it becomes what is even more important, almost necessary. I expect to make some observations on that a little bit later.

UNEMPLOYMENT AND THE LABOR SUPPLY

Mr. HENDERSON. We have two tests as to performance of the economy, one in dollar signs of national income and one in terms of the number of the unemployed.

There are no regular current figures of unemployment in the United States officially maintained. In the course of the work that I have done over a period of time, however, it has been necessary to make an

[1] See exhibit No. 70, p. 129.

estimate, so I should like, in order to get some measurement in human terms, to insert an unofficial estimate of unemployment which I have made myself.

Assuming that in March 1933 the total unemployment had reached 14,317,000, the low point since that time was July of 1937, when there were 7,412,000. By February 1938 the number of unemployed had risen to 11,793,000, and as of October 1938, unemployment was approximately 10,569,000.

During this period, one of the things which made difficult the estimating of the unemployed was the number of new persons that were entering the labor force, those who were seeking jobs, in other words.

In January 1929, the labor force was estimated to be about 48,000,000. In March of 1933 it was about 50,646,000. By the time we had reached the low point in this movement of July 1937, the labor force was 53,346,000. As of today, it is about 54,230,000.

Now, converting the performance of the economy in terms of the reduction of unemployment, taking the high of March 1933, of 14,317,000, and the low of July 1937, of 7,412,000, that would show a net reduction of 6,905,000, but there had been in that time 2,700,000 added to the available working force. Taken together, that meant a net increase in unemployment of about 9,605,000, so that in the forward drive that took place between March of 1933 and July of 1937 about 9,605,000 people found jobs.

Senator KING. Including those on relief paid by the Government?

Mr. HENDERSON. No.

Senator KING. Those given work by the Works Progress?

Mr. HENDERSON. No.

Senator KING. Or the P. W. A.?

Mr. HENDERSON. P. W. A., yes.

Dr. LUBIN. Mr. Henderson, on the basis of those figures it is correct to assume that if we had had no depression since 1929, if we had kept going on a perfectly straight line, the number of people who were added to the labor force plus those who were unemployed in 1929 would mean that you would still have had around 8,000,000 people unemployed in the United States at the present time?

Mr. OLIPHANT. On the level of production of 1929.

The CHAIRMAN. What is the constant rate of expansion of the labor force?

Mr. HENDERSON. The estimates vary. A conservative estimate places it at about 30,000 a month, and another nearer 50,000.

The CHAIRMAN. That would be 600,000 a year at 50,000.

Mr. HENDERSON. And the one of 50,000, I would say, comes closer to corresponding to the estimate of the labor force that you can derive from the Biggers census.

The CHAIRMAN. Those estimates are based on census figures?

Mr. HENDERSON. They are based upon our experience over a period of time and the census.

The CHAIRMAN. Does that represent a net increase?

Mr. HENDERSON. Yes.

The CHAIRMAN. In other words, when you say the increased available labor supply is 30,000 or 50,000 a month, you are taking into consideration the numbers of persons who by death and illness and all other circumstances are retired from the labor market.

Mr. HENDERSON. That is right.

The CHAIRMAN. On the basis of these figures would you care to indulge in any prophecy?

Mr. HENDERSON. Senator, so far as prophecy is concerned, I might say that I have retired from the field. I am somewhat in the position of the fellow who, the first time up, made a hole in one in golf, and he said, "Why go any further? I've reached perfection."

Representative REECE. I am interesed in your estimates of the employables in the country. As I understand, you estimate that there are now 54,000,000.

Mr. HENDERSON. That is right.

Representative REECE. Out of a population of how many?

Mr. HENDERSON. About 130,000,000.

Representative REECE. The estimate strikes me off-hand as being rather high. Upon what was the estimate based?

Mr. HENDERSON. The estimate is based upon the census and then estimates for the intercensal periods, based upon the known number that are coming into the market and other estimates.

Mr. OLIPHANT. And includes both men and women?

Mr. HENDERSON. Yes.

Representative REECE. In connection with the various unemployment censuses, has there been a census made or an estimate made from the standpoint of the number employed at one period as compared to the number employed at another period showing the number who had lost employment, with a view of arriving at the number employed of the unemployed from the standpoint of those who had previously been employed and had later lost their employment?

Mr. HENDERSON. Dr. Lubin gave the figures on employment which are calculated each month.

Representative REECE. I had in mind that there is a certain number of people who might be classed as unemployed who probably had never been employed.

Mr. DAVIS. And who do not want to be employed.

Representative REECE. And I fear some of them may not wish to be employed.

Mr. HENDERSON. The estimate of the total number in the labor force is made by the National Industrial Conference Board, which, as you probably know, is an employers' organization.

Representative REECE. When you have a voluntary unemployment census, it has been my observation that the people who will go to register as unemployed include, especially in the rural sections, a large number of people who may work at periods on the farm, but by registering as unemployed hope to secure positions otherwise. I presume, however, that those in charge have taken account of that.

Dr. LUBIN. Congressman, the significant thing is that, if you start out with the assumption that there were a certain number of people unemployed in 1929, about 1,800,000, that doesn't mean that the same 1,800,000 were unemployed all the time. It is the average for the year. It means on the average there were 1,800,000 people out of work.

If you add to that 1,800,000 the number of people—or, let's put it this way: If you take the labor supply of 1929 or 1930 as shown by the census and add to it the net increase in the employable population, that is a net figure which takes into consideration not only deaths, retirements, illness, but also takes into consideration the growth in the

number of people at school. In other words, during that period there was a tendency for people to stay in school longer, cutting down the number entering the labor market, and if you add all those people to the number available for work in 1929 and substract from it our figures on employment, you get the figure Mr. Henderson gave you, and incidentally that figure is within a few percent of the figures shown by the census of 1937.

In other words, either through census methods or through statistical estimates the results are so close together that the variation is very small.

Mr. HENDERSON. Dr. Lubin, maybe if I were to give some other figures it would be helpful.

Take in October 1938, when I estimate there were 54,149,000 in the labor force, there was a total employment of 43,580,000, of which the nonagricultural employment was 32,686,000 and the agricultural was 10,894,000.

We will get, as Dr. Lubin's figures come out, a confirmation of that number of the nonagriculturally employed you see, and so you have a pretty good test.

You might want to ask me, however, Mr. Congressman, whether or not, with a rising level of activity, a lot of what constitutes registered unemployment would disappear. I would say most assuredly yes, because when you have a condition in which the chief wage earner becomes disemployed then, very frequently, the wife and other members of the family who are of working age become unemployed also in the sense that they are seeking jobs, and one of the reasons why, after you reach a certain period in the level of activity, you get a rapid decrease in the unemployed lists, is that numbers of wage earners get back into their accustomed pursuits and their wives and members of their families are taken off the registers for employment.

Representative REECE. I think it would be very interesting to see some kind of break-down of the estimate by which you arrive at the conclusion that there are 54,000,000 employables.

Mr. HENDERSON. I will be glad to write out a statement and submit it for the record.[1]

The CHAIRMAN. Would it be correct statistically to say that one person out of every two and a half in the United States is ready, willing, and able to work? That would be 54,000,000 out of the 130,000,000.

Mr. HENDERSON. Five out of about thirteen would be my guess. That is about right.

Senator KING. In the figures which you have given of the population, 129,000,000, as I understand you to say, how many do you figure or estimate are under the age of 16? I am trying to get a break-down showing the number of persons who are adults and who, if health permitted, are not too old to find employment.[2]

Mr. HENDERSON. I haven't got here, Senator, the last census estimates, and its distribution by age groups. You remember this chart Dr. Lubin presented is based on the Biggers census of the numbers of unemployed.[3]

[1] Mr. Henderson subsequently submitted a statement for the record which is included in the appendix on p. 250.

[2] Mr. Henderson subsequently submitted a table containing this data which is included in the appendix on p. 251.

[3] See exhibit No. 48, supra, p. 64.

Senator KING. He went to the age of 15, but I want to go farther down and find out the number of persons under 16 years of age in this 129,000,000 group, to enable me to determine, so far as I may, the accuracy of your statement as to the number of unemployed, 54,000,000 out of 129,000,000. If you subtract from 129,000,000 the children under 16 years of age, you have taken a very large segment out of that total amount.

Mr. HENDERSON. I didn't say 54,000,000 unemployed, Senator King. I said there were 54,000,000 people in the labor supply.

Senator KING. Yes, that might be employed; 54,000,000.

Mr. HENDERSON. And you come at it in another way. It is estimated currently that in nonagricultrual pursuits, factories, mines, railroads, and things like that, we have at the present time about 32,686,000 people actually at work somewhere now [1] and we have about 10,894,000 as the estimate of the Department of Agriculture of the people that are employed in agricultural pursuits. That gives you a total of 43,580,000 people who are employed at the present time.

Representative SUMNERS. Mr. Henderson, may I ask, does that 54,000,000 include people who are employed under their own control or salaried people?

Mr. HENDERSON. It includes all professional people, all persons who are proprietors.

Representative SUMNERS. What number of the people in the groups would you classify as people who are employed or salaried people, if there are any such data, as distinguished from the person who is working for his own business, working for himself, or in a profession?

Mr. HENDERSON. The Bureau of Labor Statistics estimates that there are now about 4,300,000 proprietors and self-employed in nonagricultural pursuits.

Representative SUMNERS. While you are interrupted may I ask a question, please, sir? With regard to this 1929 figure, as a practical proposition, could we reasonably hope to reestablish the 1929 production momentum, the general conditions that obtained then, reestablish and keep it going?

Let me put it this way: Was that a condition that we could reasonably hope to keep going, or was it an abnormal peak of activity that stuck above what you would hope to have as the level?

Mr. HENDERSON. I am very optimistic about it, Mr. Congressman, myself. I give you the same answer I gave the chairman—I wouldn't want to make any distinction between the chairman and the vice chairman. I will not say that realistically that is possible, but necessarily we have got to go beyond that in order for this thing we call a system to maintain itself. That is my personal point of view, and not anything derived out of my work for the committee.

Representative SUMNERS. We appreciate that because that is what we are trying to get.

Mr. HENDERSON. I will not only say that I believe that that is not a distortion or not an unusual occurrence; I think it is in the logic of the growth of America, and I think that the logic also impels you to feel that not only will we go forward, but that we must go forward if we want to maintain a whole set of institutional relationships which we call the American system.

[1] See exhibit No. 33, supra, p. 44.

Representative SUMNERS. When you say "go forward," do you mean go forward and increase the momentum and the relative volumes of production, and so forth, which we had in 1929? Is that what you mean by going forward?

Mr. HENDERSON. Yes, I mean going forward. Probably we will have a lower rate of increase, because we are reaching a period which every productive system reaches, in which we tend to level out a bit, in which we tend to make our adjustments, and I am going to discuss a little bit later some of those changes that seem to be taking place, and from that I feel that the committee, taken together with its own ideals, will get an idea of what we need to study as a basis for our recommendations.

Could I make an affirmative statement? I have raised a question: Are we in for stagnation or decline?—and that is a favorable topic of observers, for the titles of books that are appearing now, and if I were asked to give my guess, I would say we are not in for stagnation and decline. When I get into a discussion of the basic assumptions of the American system, I think I can indicate why.

Representative SUMNERS. May I ask you this question, and then I will finish: In the study made by any of the executive agencies which are going to make presentations here, have there been any considerations of the possibility of using what you have designated as unemployed people in an attempt to restore the waste to the earth which has been committed by the last few generations, the destruction of the fertility of our soil, and that sort of thing?

Mr. HENDERSON. I think that is the central thesis of a lot of the work which the National Resources Committee has done.

Representative SUMNERS. I think that is really more important than the automobile.

Mr. HENDERSON. I think there are many people who would agree with you. The National Resources Committee has devoted a considerable amount of care, certainly more care than has ever been devoted before in our history to that question and produced a tremendous report, part of which, of course, is being utilized as the various works programs go forward.

Mr. OLIPHANT. Would the 1929 level of business activity absorb the unemployed?

Mr. HENDERSON. No, there was a residual amount of unemployment at that time, estimated in the neighborhood of 1,600,000, and that includes, of course, an estimate of the float, you might say of people in transition from one job to another.

Mr. OLIPHANT. But since then we have had this growth in population. Have you any figures to indicate how many unemployed we would still have if we now had the 1929 level of business activity?

Mr. HENDERSON. Well, we would have at the 1929 level—my estimate is a little higher than some others—but I would say around seven to eight million.

Mr. OLIPHANT. Still unemployed.

Mr. HENDERSON. Yes. As a point of departure I will say at our peak in production we reached about 120 in the level of industrial production, and we reached about 81 billion in national income. In order to attain the same status of unemployment that we had in 1929, we would need to go to about 140 in the index of production that is maintained by the Federal Reserve Board.

Considering that we are now about 101, somewhere in there, that will give you an idea of what we have got to get in terms of physical production before there would be an absorption down to the level that we had in 1929.

Mr. OLIPHANT. Let me see if I understand it. If we got back to the level of business activity of 1929 which has been characterized as unreal or artificial, we would still have between seven and eight million of unemployed.

Mr. HENDERSON. That is right.

Senator KING. Mr. Henderson, were there not some malign influences operating in our country along in 1924, 1925, 1926, and up to 1929, which produced a sort of feverish activity in some of our industrial plants, in some of our industries, and those malign influences in 1929 reached their culmination, and then finally the fever largely disappeared, or in part disappeared, which resulted, of course, in a decline in production, leaving the patient, if I may use a parallel, somewhat exhausted, considerably exhausted as a result of the feverish activity, but still with life enough to continue.

Mr. HENDERSON. For the first part of my answer I would rely on what Dr. Thorp said yesterday. For the second part I think I have already indicated that, well, to use a phrase, "There is life in the old gal yet."

Any system that gives employment to 43,000,000 people, any system that produces $62,000,000,000 of national income and any system which even at this low level is ahead of the estimates of the per capita income available in other countries, is still a pretty vigorous and virile system.

Senator KING. No one would deny that.

Mr. HENDERSON. I wanted to say something about this estimate that I gave you, that we would have to get up to 140 in the Federal Reserve index of production for that absorption. I want to call to mind, however, that that would take us at least 20 points above the high point up to this time, and that we reached bottle necks in 1937 when this thing was taking place here, this durable goods production here,[1] that there were numerous industries that were operating at almost capacity production.

Now, the reasons assigned for this downturn are many. I think that this committee can well leave to another time its own assessment as to those reasons, because my own feeling is that there is a considerable amount of information, facts, that will be produced which will illuminate that whole picture.

Senator KING. You mean during this hearing.

Mr. HENDERSON. During our set of hearings and in the production of reports which the various agencies will present. It is easy to see, however, what is the requirement in terms of savings that are going to be needed in order to build a bigger machine for getting up to that production.

In other words, if we can find a set of conditions which will not give us the violent disturbance at this point when arrived at again, then the basis for capitalistic expansion has been provided, and this thing we call over-saving or under-investment is partially taken care of because after all that [durable] is investment, that [nondurable] is consumption when you are thinking in terms of these two lines

[1] See exhibit No. 87, supra p. 153.

on this chart, production of durable and nondurable manufactured products.[1]

Representative SUMNERS. Mr. Henderson, in looking to our problem, are there any suggestions which you would be disposed to make to the committee with reference to the possibility of reestablishing the relative quantity of exports in 1929, or doing some other domestic thing to absorb the labor which was then used in producing the commodities which we exported? That strikes me as some difficulty, and I don't know whether you had thought about it.

Mr. HENDERSON. Such a prospect is always inviting a request for solutions, Judge, but I should like to be relieved.

Representative SUMNERS. All right.

Senator KING. May I ask one question there, if I may? I remember, in the tariff hearings in 1930, there was a great deal of discussion as to the employment which resulted from our exports of raw material as well as of finished products.

We had exported, as was indicated yesterday by Dr. Thorp, as much as $6,000,000,000 in a given year,[2] and my recollection is that we had some testimony before the committee which indicated that those exports not only gave employment on the farm but they gave employment to 5,000,000 of people in factories in the production of finished and semifinished products, and that if we reduced our exports materially, we would throw out of employment a very large number of people.

Mr. OLIPHANT. You mean these exports during the 1920's. Were they ever paid for?

Senator KING. Many of them were paid for in 1923, but that means a loss of capital. We lost not only the eight or ten billions of dollars capital which was loaned during the war, but we loaned two to five billion of capital after the war, most of which was never paid, so you would take into account, of course, I would assume, the destruction of capital as well as the contributing factors to the decline in production.

Mr. HENDERSON. I intend to discuss that under another head, Senator King, but at the peak it was estimated, I believe, that about 3,200,000 people were employed in producing goods for export and we are down now to about 2,400,000 that are producing goods for export.

Senator KING. That includes agriculture, I suppose.

Mr. HENDERSON. Yes.

Representative REECE. I believe, Mr. Henderson, if you will pardon me, you stated if we should now return to 1929 production, there would be some seven or eight million unemployed. If, however, our economic machinery was geared to the same productive activity to which it was geared in 1929, our population having increased our demand for goods consequently increased, wouldn't it be contemplated that the activity would be expanded so as to meet these increased demands arising from the increase in population and thereby the same economic activity would consume the normal increase in the labor supply?

Mr. HENDERSON. I think, Congressman Reece, that is one of the basic questions that this committee has got to take up, because we

[1] Exhibit No. 87, supra, p. 153.
[2] Exhibit No. 88, supra, p. 154.

have now, as you will remember from one of the charts that was here, a number extending upward beyond 20,000,000 people who are deriving their livelihood partially or entirely from Government sources, and that does constitute a demand; that is, the demand is equivalent to an introduction at one level of an additional population.

Representative REECE. Referring to the 1929 production, it doesn't seem to me any more significant than referring to the 1919 production, or 1909 production. In those years our economic machinery was geared so as to in a reasonable degree meet the demand for goods, the demand arising from the population as it was at that time. Almost 10 years have passed since 1929. Our population has increased, our demand for goods presumably has increased, and to make a comparison of production itself to the mere production of goods in a decade previously doesn't seem to me to paint a very vivid picture.

Mr. HENDERSON. My estimate of seven or eight million unemployed on 1929 levels and later my estimate of 140 in the index of production takes into account the increase in the population that has taken place. That has been given weight. I have a very extended study of that from which I have only abstracted and I think that we can well afford to have a separate hearing on that question.

Senator KING. Before you conclude your testimony, today or when you came to the stand again, I should be very glad if you would break down that 54,000,000 which you say may be gainfully employed, and indicate how you have divided the 129,000,000 population into the employed and unemployed, how many of them are women and how many of them are children under 15 and over; a breakdown so that we may know just how many there are.[1]

Mr. HENDERSON. And where the problem lies.

Senator KING. How many are susceptible of employment under a proper economic system?

BASIC ASSUMPTIONS OF AMERICAN COMPETITIVE CAPITALISTIC SYSTEM

Mr. HENDERSON. You have spoken and we have spoken many times of the system, and people are always asking, What is this system? It is not easy to define a system, but it is fairly easy to recognize one through identifying characteristics. The American system has had certain characteristics in common with other systems of capitalistic production, but it also has had special traits which distinguish it from all others. This thing we call a system which I find difficult to define and merely try to identify, comprises something more than just an economic program. It includes a basic philosophy, a set of legal and political institutions, and a cluster of business institutional operating policies, and all are usually as closely related to the community's ideas about the future as they are tied to past experience.

I have undertaken to set down basic assumptions as I see them of the American system of competitive capitalism. In the first place, the American system has emphasized the dignity of the individual, his resourcefulness, and has had essential reliance on the ability of individuals, in free association, to design affirmatively the main forms and directions of life.

[1] See tables containing this data, appendix, p. 251.

Its basic legal institutions have included private property and freedom of contract, with the collateral assumption of approximate equality of bargaining power.

It has assumed acceptance of minimum but workable rules of law, democratically determined, under which each individual, in pursuing his personal self-interest, would also serve the logical interest of the community.

It has rested on a belief that there should be no long-term restriction of the international flow of goods, or the freedom of the individual to make economic decisions at his own risk.

It has placed its faith in the function of price and the market mechanism as the best possible forces for the allocation of the resources and the determination of distributive shares to worker, investor, owner, and risk-taker alike. It has had a concept of the free market as one which no buyer or seller could dominate.

Implicit, but less well defined, have been assumptions of mobility of labor and capital, almost unlimited land and natural resources, that the economy and its population would expand indefinitely, and that all possible savings could be readily employed in natural expansion of facilities for serving consumers.

Government, it has been thought, should intervene mainly to compel observance of working rules.

Taken together, these assumptions, as I read them, have constituted the American competitive capitalistic system.

EFFECT OF CHANGE ON BASIC ASSUMPTIONS

Mr. HENDERSON. Throughout these last 2 days the charts, as Dr. Lubin and Dr. Thorp presented them, have vividly recorded and emphasized change. Change—Change—Change. That has been the keynote right along.

Outstanding change, and one which is of greatest importance, is the significant departure, since 1929, from our historical line of growth. This is most apparent from the course of industrial production since 1929. No observer can overlook it, nor believe other than that as things now stand our growth has stopped. In terms of per capita production we are failing to hold our own, though the rate of technological change holds its steady course. Some hold firmly to the belief that our economic ills are due to too rapid a rate of change, and the lag in social adaptation.

What I have in mind about a departure from this line of growth I want to emphasize again. This line,[1] of course, has been constructed from a number of lines that give little emphasis to other depressions, which give an emphasis to the fluctuations that have taken place in the past but you don't have to be a professional chart reader, you don't have to be a digit hound, to know that something has happened in order that this particular line of activity should be recorded this way. In present terms, in terms of the difficulties that the system is having in rising to full equilibrium, full employment, in terms of its possibilities, in terms of the violence of disturbance which takes place time after time, it is very evident that we are at a strategic place.

Now it has become customary to talk about crossroads, and things like that. Emphasis, however, is sometimes dulled, but I think that in any consideration of whether or not we are in a really serious situa-

[1] See exhibit No. 5, supra, p. 5.

tion, we need to give some attention to this question as to whether or not we have reached the top of our growth, whether we are in for a period of stagnation or decline.

One of the very, very noticeable observations to be made as to the course of activity in recent years under our complex mechanism is the inability of the system to maintain itself at any level which it has attained; that is, we do not stop, there is a constant shifting all the time. This halt is of extraordinary importance not only because of the deficits we have been outlining, but because it represents for the first time a major departure from the growth line in American industry.

Senator KING. May I interrupt you right there, Doctor? What year does that chart indicate is the beginning of your line?

Mr. HENDERSON. This chart,[1] which is the chart of the United States national income, begins with 1850.

Senator KING. Do you think that you have fairly represented on that chart the abrupt and disastrous decline from 1889, 1890, 1891, 1892 and 1893, when we had hundreds of thousands and millions out of employment, and armies marching across the United States? Have you sufficiently indicated that on the chart?

Mr. HENDERSON. As I indicated when I started, those dips have been smoothed because that is based, as I gather, on estimates of level of activity at 10-year intervals.

Dr. LUBIN. It is true, therefore, that even after making allowance for those dips, the trend was continued upward. In other words, we more than made up the loss.

Mr. HENDERSON. That is the sweep, and if you had a projection of this curve it would be taking you in here, and that emphasizes all the more, as I indicated in my estimates, what the possible attainments of national income would have been had we kept on. It emphasizes how far off we are. We are at 62 billion dollars now; we should if that line of growth had continued, have been at 94 billions.

Dr. LUBIN. In other words, each 10 years more than made up the loss of the preceding 10 years.

The CHAIRMAN. Is that not illustrated by the lower line showing the per capita income, which indicates that at the depths of the recent depression in 1931, the per capita national income was slightly more than $300, which was in excess of the per capita income in 1900?

Mr. HENDERSON. That is right. On the other hand, we were back at this low point, to the average of about 1911.

I don't mean to linger too long on that, Mr. Chairman. What I would like to discuss is some of the changes that have taken place, rather to emphasize some of them that have taken place, on which our basic reliances were substantially rooted. The first one, of course, on which I will not linger long, is the passing of the frontier. There always seemed to the individual in his search for a means of livelihood to be the possibility of working free land. That has passed.

There always seemed to be the alternative of the production of natural resources of some kind. We know in terms of what the expense and losses are in the development of mining resources that this alternative is not available to the individual. We know, too, that as far as the natural resources of this country are concerned, they are already possessed, and largely under conditions of concentration of ownership.

[1] Exhibit No. 5, supra, p. 5[1]

Dr. Lubin emphasized the growth of population, and Congressman Reece was adverting to what had taken place in terms of population as creating new markets. Most assuredly there was a period in which after each one of these dips, to which you referred, Senator King, the growth in population did seem to mean there were new people to be housed, there was a pressure on the housing we had, there was a pressure on the food supply, there was a pressure for expansion of credit, and this helped to make up the deficit.

Now that has really in these terms disappeared. In fact, this thing we thought of as a competitive capitalistic system really had its greatest implementation by the growth in population. England's population quadrupled in the nineteenth century, that of the whole of Europe tripled, and the United States increased its population about fifteenfold. There were these increasing markets which enabled the individualistic system to make this growth.

Today, with the leveling off of population, there are, it is estimated, 1,000,000 empty desks in our primary schools and Dr. Lubin has given an indication of what the trend of population may be. I hope, at some later time, to submit some figures to indicate what has happened to immigration. I thought I would have them today.

Senator KING. Do those figures indicate whether those empty desks are in urban or suburban parts of the country?

Mr. HENDERSON. I think they are in both.

DECLINE OF COMPETITION

Mr. HENDERSON. One of the outstanding things, however, has been a decline in the vigor of competition. Certainly, no observer would undertake to say that competition within the original concepts is persistent today. In fact, I am going to read what three observers say about competition, just as a point of departure for other observations.

F. C. Mills, in his book, "Prices in Recession and Recovery", which is the outstanding study of this movement of prices, said, "Our economic fortunes and our living standards depend upon the working of a system still essentially competitive, and in our appraisal of economic ills we must recognize this fact."

Then Arthur R. Burns, likewise, as is Dr. Mills, a professor at Columbia University, and author of the most outstanding book on this subject in recent years, "The Decline of Competition", begins on this note: "The rise of the 'heavy industries,' changes in methods of selling, and the widening use of corporate forms of business organization are bringing, if they have not already brought, the era of competitive capitalism to a close."

But another professor, an ex-head of the American Economic Association, John Maurice Clark, before the Academy of Political Science, within the month said, "I believe, though I cannot prove, that capital must in the future adjust itself to a lower rate of return than it now considers reasonable, and to degrees of competition which it now considers unduly severe, or paralysis will follow, and capital will suffer along with all other interests. To put it the other way around, I believe, though I cannot prove, that if business gains the power, through imperfect competition or otherwise, to protect what it sincerely regards by customary standards as a moderate and fair rate of return, and is not restrained from exercising that power, the result is very likely to be economic suicide."

I have chosen them because they are representative, as I have read them over a period of years, of the attitudes toward decline in competition.

Certainly one of the assumptions that we had as to competition—that is, a number of small units—disappears in the terms of the material Dr. Thorp presented yesterday. Dr. Thorp did a careful, analytical job as to where concentration has taken place, the importance of size, and indicated, of course, that this thing which we had as an ancient idea about monopoly of a single producer having control of a market is no longer the thing. We have two, three, or four dominant corporations in an industry.

Now, so far as the effect on the system is concerned, so far as the effect of the lack of competition is concerned, the question as to whether there is conscious control of a market through illegal means or whether or not that control is exercised, diverted, or subverted, is relatively unimportant. In terms of what you do about it it is important, but if you are hit on the head with a hammer your hurt is just as bad whether it was an accident or whether somebody did it deliberately, or whether one person did it or three persons did it. You are likely to get even more of an impact if three persons are handling the hammer.

So far as the problem before this committee is concerned, the slowing up of competition certainly is of great importance to know where it is taking place, to know what you may do about it.

There are several ways of noting the disappearance of competition. Dr. Lubin showed the capacity for portland cement and showed that over a period of time that capacity had not been utilized.[1] He also showed a rising tide of real wages, a tide that had continued in the face of the tremendous amount of unemployment that we have had.[2] Under any assumption of a system operating under completely competitive characteristics, neither one of them would be able to happen. That is, neither on the side of a lack of utilization of capital could you have that kind of thing taking place; nor could you have with the tremendous labor supply an increase in the rate of real wages so long as that supply was pressing on the market.

Changes in selling practices, as Dr. Thorp emphasized, are some of the reasons why attention has been diverted recently to attempted controls and modification of the ruthlessness of competition in the distributive field. It is no accident, of course, that a lot of complaints which the Federal Trade Commission handles at the present time are in the distributive field, because we have perfected a mechanism for production. It is in the arena of the markets that the real battle is being fought out, and you find, of course, an increase in resale price maintenance, in the no-selling-below-cost laws, in the Robinson-Patman and Miller-Tyding kinds of acts. They reflect the diversion of the push that used to take place at the producing end of enterprise, and is now being focused on distribution.

Price leadership, something practically unknown in early days when these concepts were being formed, has come into existence. And these duopolies and triopolies and oligopolies, and all other kinds of things which are supposed to have substituted themselves in the market for monopolies, make it really tremendously easy for price leadership to

[1] See exhibit No. 23, supra, p. 34.
[2] See exhibit No. 47, supra, p. 61.

take place—price leadership which is something not always easily proved to be something which is the result of conscious efforts or any kind of agreement or concert as between the dominant parties.

Mr. PATTERSON. Mr. Henderson, may I interrupt there? Under this price leadership, it is no great secret as to which industries have price leadership.

Mr. HENDERSON. No; I think it is pretty well recognized. I don't believe anybody that had any extended experience with N. R. A. would feel that there was any secret.

Mr. PATTERSON. Can you name some of them?

Mr. HENDERSON. Certainly when you get a situation where there is a posting of prices every 3 months in the steel industry and the rest follow you have price leadership. You get it in agricultural implements, you get it in the can industry, you get it in anthracite coal, you get it in such things as crackers.

Mr. PATTERSON. Gasoline?

Mr. HENDERSON. Gasoline. There is very definitely a price leadership which is made all the more possible when you get a cluster, when you get three or four dominant units in an industry, each of which is aware that any kind of change that it makes in its pricing policy is going to be reflected in the pricing policy of another. It may lead them to take certain actions, or to refrain from taking certain actions that the market was expected to enforce under these original concepts I have outlined.

Representative SUMNERS. Will you make a statement as to how they make effective price leadership, that you will put into the record?

Mr. HENDERSON. No; because I think we want to make a considerable study of that in the committee.

Senator KING. Some of this is in the distributive system, after the commodity passes out of the control of the manufacturer.

Mr. HENDERSON. Yes; there is some. There are all kinds of local interference. Mr. Arnold runs into that time and time again in the local markets, in the attempt to maintain prices. Undoubtedly the Federal Trade Commission also meets it at almost all avenues of distribution. An outstanding example, I think, was in the hearings on the old-basing-point bill, the so-called Wheeler bill, where an official of one of the steel companies just said, "Of course we lead on prices, and the rest follow them." That was not something in which, presumably, legal action could be taken. They were known to be one of the largest producers in the industry.

Mr. OLIPHANT. Is your present interest in price leadership as such merely price leadership as one form in which prices manifest themselves?

Mr. HENDERSON. I am indicating that this thing we know as price leadership is really a diversion from the effect of, well, I hesitate to say "pure competition"——

Mr. OLIPHANT (interposing). Did the figures introduced as to the extent of concentration, the number of these clusters of concentration, indicate the extent of administered prices?

Mr. HENDERSON. I think we are going to have enough material on prices and their relation to dominance in the market to make up several days of hearings, Mr. Oliphant, and I would rather let it go until then.

Another thing which comes to mind which is of great importance in the setting aside of competition is the importance of overhead costs; that is, the fixed costs, the tremendously large amount of capital investment that is necessary in these producing groups. That gives you a kind of debt structure, a capital structure; it gives an importance to overhead in cost accounting which gets magnified and is particularly magnified in times of great stress. For example, there is one product where I know the cost at 30 percent of capacity is about $20 per ton, and as you get up to about 80 percent of capacity, it is only about $5 a ton. That leverage there is possible only due to the shift in the importance of overhead costs, as overhead costs can be distributed over a larger amount of the product.

There is a suggestion in this importance, however, of overhead costs and their relation to break-even points which I think invites the attention of this committee. The pressure for efficiency in manufacturing enterprises leads to the attempt to break even at a very, very low point, and a number of industries, notably the outstanding ones, have got down where their overhead costs and out-of-pocket costs are actually covered at around 50 percent of production, and so business policy, production policy and price policy get geared to that kind of concept.

On the other hand, if you add up to 50 percent of employment for that industry, 50 percent for every other industry, what you have is 50 percent unemployment, so you have a constant clash between the necessary drive for efficiency on the part of the individual enterprise and its conflict with the demand that we have full production. When you have other intervening factors which permit a group, an individual enterprise, to make the kind of decision where it will choose to break even at a low point rather than moderate its production and price policies, you are almost bound to have a concomitant of unemployment. So there is a basic clash.

I say this, Mr. Chairman, without any invidiousness, to point out, however, that there is that clash constantly between the American drive for efficiency and the American necessity for full employment, and somewhere in there the competitive spirit has lost its drive to make the adjustment.

Representative SUMNERS. How is there a conflict between efficiency and this drive for more employment?

Mr. HENDERSON. When you have, as many industries have, worked down your ability to cover your costs, you see, at say 50 percent of production, you are in a much easier status when you are under pressure of a declining market.

Representative SUMNERS. But suppose you have some competitor who will gear up his production, and then isn't your per unit cost higher in proportion as you reduce your capacity to produce?

Mr. HENDERSON. That is what I mean by "break-even" point. You put your finger right on it, Judge. The reason you can have break-even points in individual industries at 50 percent is because there has been a setting aside, or the absence of this competitor who will come in and compete on a price basis. You get this kind of an understanding that goes either by concert or general understanding of the market, or goes by transference of thought and things like that—all that pervasiveness of ideas which runs so different from what we are taught to expect to take place under competition.

Representative SUMNERS. Take agricultural prices, and they are fixed ordinarily in the open competitive market, without regard to the cost of production or profit. Now, then, when those prices go down and other prices are held up, don't you break the trade contact between these people with the lower production, and these people who arbitrarily hold prices up? They can't be exchanged, it seems to me.

Mr. HENDERSON. That is right. I think Dr. Lubin's chart on the relationship between labor income and other income very definitely emphasizes that.[1]

Mr. OLIPHANT. This may be elementary to you, but I want to be sure on it. You are talking about a business so situated that when it has worked its costs down so that they are covered by operating at 50 percent of capacity, then, in the absence of effective competition, their temptation is to hold prices up, not to cut prices. Is that what it was?

Mr. HENDERSON. That is right, and it is an individual business decision which in terms of the individual business is highly proper.

Mr. OLIPHANT. Is this academic, or have there been businesses in recent times which have chosen to hold prices up?

Mr. HENDERSON. There is no doubt the decision has been made. I think I ought to say, however, that I am not speaking as to the possibilities of reducing prices and getting a larger market. I am saying, however, that in terms of the price that exists normally, it would not be possible in a perfectly competitive arrangement in that industry, to get a break-even point at that level, and I am further saying, Mr. Oliphant, that no system in which that particular kind of possibility is dominant can avoid having unemployment. That is my point.

Representative SUMNERS. Mr. Henderson, it seems to me there is another important point involved right in there. I am not an economist, but I know as a matter of practical common sense that all our industries are interrelated and they make up one economic body, make up a whole. When you take a considerable group of our people, like the farmers, who haven't been able to sell at cost plus a profit, or sell to the highest bidder, when you take a situation where they are a part of the economy, and they get where their prices are way down low and other prices are held up arbitrarily, you are bound to have economic paralysis, it seems to me; when you paralyze the buying power of 30,000,000 persons on farms, that paralysis has to extend up through the whole economic body, and as a rather practical proposition it seems to me this committee in its study should either consider trying to fix it so everybody can do this thing arbitrarily or nobody shall.

Senator KING. Don't you think there is competition among farmers?

Representative SUMNERS. They are competing for the opportunity to sell.

Senator KING. Some farms are more productive than others, and some methods of production by farmers are more economical than others, so that among the agriculturists themselves you have a struggle there of competition to produce cheaper and to find, of course, wider markets.

[1] See exhibit No. 14, supra p. 21.

Mr. ARNOLD. Your point is illustrated, is it not, by the fact that there isn't any break-even point in agricultural products?

Mr. HENDERSON. The break-even point in agriculture is illustrative of what happens in an area that is predominantly competitive. Under the competitive system your break-even point will be only a little bit short of, and sometimes will not actually arrive at, cost, you see. And as a result, you have a pressure all the time for more production, and that would supposedly be one of the real benefits of the competitive system; when you get areas in which there is not that pressure, either by concert or by general understanding, you can work your break-even level down. You don't have an intensity of competition such as was pervasive in the early days or is pervasive in agriculture.

I am noting it as a condition without attempting to attach any particular blame for it.

Senator KING. Isn't the status of the agriculturist so far as obtaining profits or lack of profits in part, though, resting upon the foreign market, so that when you cut off this foreign market through high tariffs or through any other reasons, I will not explain what they may be, you are bound to affect his economy and reduce his market, and of course reduce his purchasing power. And that, as Judge Sumners says, is carried forward and affects the whole economic structure, because of the interrelation between industry and the farm community?

Mr. HENDERSON. I would grant that, and I think it is something we have got to look into, but what I was instancing here was, how there has been what is called a revulsion against risk, and how we have fashioned kinds of instrumentalities and modes of thought which have enabled us to set aside the ruthlessness of the market. The market was expected to be a pretty ruthless kind of thing, and it was never possible to think in terms of real competition and 11,000,000 unemployed at the same time. That is the closest statement that I can make of it. Any time that you have got a condition of high unemployment or failure to use your resources, it is very evident that the old assumptions of the competitive system are not at work. I am not attempting at this point to say whether or not you can restore them. I am merely saying that so far as these assumptions that I have laid down are concerned, it is not possible to think of them in terms of the failure to use our resources.

Mr. OLIPHANT. When you say they are not at work, do you mean they are not at work or not wholly at work? I want to come back to that. As I understood your thought, our trouble is not that part of the price structure is inflexible, Mr. Congressman. Our trouble is that it isn't either all inflexible or all flexible.

Representative SUMNERS. That is pretty near the statement, yes. I was making the observation that we have to, I believe, make a study of making it all flexible or reducing the flexibility in some of it.

Senator KING. In view of the fact that you have referred to the farmers frequently, and very properly, and I have referred to them, too, I want to emphasize the point that the unfortunate situation of the farmer is in part due to the loss of markets. You come to the cotton field. You produce a vast amount of cotton. We used to sell 60 percent of our cotton abroad. We had several million bales

sold abroad. Now, by reason of tariffs or otherwise, and I will not go into the reasons, we have cut off largely our farmers from their export market, and that has had serious repercussions among the farmers, and of course where they lose their profits there are bound to be serious repercussions in all other aspects.

Mr. DAVIS. Referring to "C," subsection 6, on page 2, division II of your statement, you say "Rise in collective effort—'revulsion against risk'." Is it not your observation that in many instances there has not only been a revulsion against risk of loss, but a revulsion against receiving no more than a moderate profit?

Mr. HENDERSON. Judge, if I would let all 12 of the members of this committee phrase my observations we might get a collective statement but I am afraid it would not be what I would make.

Representative SUMNERS. In view of the fact that I have been one of the chief interrupters. I am not embarrassed by making the suggestion that we had probably better let the witness go ahead.

The CHAIRMAN. I think the suggestion is a very good one, if we will allow Mr. Henderson to proceed without interruption, and then those who may desire to question him at the conclusion of the statement will be given the floor in turn.

Mr. HENDERSON. I have listed a decline in the concept of possible control through monetary policy. Some day if I need a decoration for bravery, I will point to the fact that I did make this listing, because there are so many who believe that in monetary control and its possibilities there is some magic push button. It seems to me at times, so far as the monetary control theorists are concerned, that they not only believe the monetary base is something you could rest Archimedes' lever on, but that it is Archimedes, the lever and the base all together. It is expected to be automatic in its working. Any observer of the experience with the interest rates and with the open market operations in recent times can have no real basis for feeling that unemployment can be dispensed with or that production at its fullest possible heights can be attained by some kind of monetary monkeying. That is the only observation I want to make on that.

I have listed, also, the question of the interference with the basic assumption that there would be no long-term restraint on the flow of international trade. The history of tariff policy since the early days, since the beginnings of Alexander Hamilton's ideas of what was the basic need of production for industry, is well known to most people. Certainly so far as the assumption is concerned that we would have a possibility of alternative sources in competition from the outside, which would be in a measure a policeman, as against our own industries and a protection against a lack of competition or a dulling of its edge, the flow of international trade has not offered the kind of guarantee that would be assumed under any conditions.

I mentioned, in my list, something that was emphasized earlier, and that is, that we have had no new industries recently. There has been nothing which would really give us the kind of vigorous employment, the expansion of numerous activities, that Dr. Thorp listed yesterday, and there doesn't seem to be immediately over the hor zon anything that would take the place of an automobile industry.

There is that possibility, that one of these days we may do something about housing and get it organized and pointed directly toward what is the insistent demand for proper housing in this country.

EXCESS OF SAVINGS OVER NEW INVESTMENT

Mr. HENDERSON. I want, however, to pay a little bit of attention to this question of the excess of savings over new investment and capacity to produce, because it seems to me that is the nexus of the problem with which we are confronted.

There are several ways of measuring this thing we call investment and savings. Sometimes you can measure it in physical goods, which is your capital formation side; sometimes you can measure it in terms of dollars. Unfortunately the dollar measurements are nowhere near as good as the physical measurements at the present time. Somewhere between 15 and 20 billion dollars of the national income, when we were around 70 to 80 billion dollars, was available for savings of some kind.

Now, in the days when we were expanding, in the days when it was considered necessary to get European loans, in the days prior to the war, when there was a tremendous amount of demand for expansion of capital, we had no difficulty with this thing known as savings. They do constitute a difficulty now, and I am not going to try at this time to indicate how that problem may be solved.

I do want to point out that their very presence constitutes a problem. That is, the fact that year in and year out savings go on and must find some outlet is really important. Now, we have tended to magnify the importance of the durable goods, and properly so. But in durable goods I think we ought to note that so far as the ordinary use of savings is concerned, it was customary in the 1920's to spend about 38 percent of our savings on producers' goods, that consumers' durable goods in the way of houses and automobiles took about 52 percent of that, and public works took about 10.

Of course, another thing that has been overemphasized, which needs to be recorded as a fact for consideration, is that during the whole of 1923 to 1929 period, in every $3 of investment in plant and equipment about $2 was produced by the savings corporations themselves, either through their depreciation account or through their own surpluses; about $1 out of every $3 came from the outside.

In other words, the capital market was being tapped something like this: There would be, say, $6,000,000,000 each year which would be spent by industry itself, and $3,000,000,000 which would be secured as new capital from savers entirely outside of that group.

In 1937, when we had reached this kind of thing,[1] 90 percent of the financing of the production of durable goods, so far as it related to machinery, equipment and things like that, was coming from either depreciation account or was coming from the retained earnings of the corporations that had been accumulating over a period of time.

That question of the rate of savings invites a very, very real question that I am going to discuss and I am going to draw a little bit on the English experience for it. The English have, I expect, a little better estimate of what the savings in relation to national income is than our own. They show that around 1907 they were saving maybe 12 percent of their national income; in 1924 that had dropped to 8.1 in 1929 it was 7.2; in 1935 it was 6.9 percent. The significance lies in the fact that since 1924, and since 1929, the amount of savings which the English system was making was considerably less than our own and was considerably less than had been the situation in earlier times, and

[1] See exhibit No. 86, supra, p. 151.

yet England, we know, has had a kind of recovery that we have not experienced here, and which few other countries have experienced.

Now, the financing of that did not come from their national savings, and I want to read one observation in order that I may have it absolutely correct, of the outstanding observer of that particular phenomenon, a phenomenon whereby England had recovery with a diminishing savings.

Colin Clark, in his recent book,[1] says:

* * * I believe the facts have destroyed the view up till now generally prevalent, i. e. that the rate of economic growth was primarily dependent upon the rate at which capital could be accumulated. The very rapid expansion in productivity at the present time is taking place at a time of heavily diminishing capital accumulation. What is more remarkable, practically none of the capital which is being saved is being put into productive industry proper.

In other words, what seems to be taking place so far as England is concerned is that they are not having the tremendous unbalance between the amount of purchasing power that is produced through the producing organization and the amount which is being expressed as consumer claims to those goods. In the setting up of the idea of derivation of purchasing power it is evident that the final price that is paid is made up of payments that have been made in wages to salaried people, payments that have been made for materials, and a part which is retained as depreciation or as retained earnings of the corporation.

To the extent that all purchasing power produced does not get into the market, we are likely to have difficulty. In earlier days there was no difficulty because any amount saved seemed to be automatically required, and that was one of the assumptions upon which this fast, vigorously expanding competitive system of ours rested. There has been this shift to the extent, as I say, that we have fifteen or twenty billion dollars of savings here, a much higher rate than the English, without the demand for so many billions. We always had the assumption that high rates of saving were necessary, that the rate of progress was determined by the rate of savings, but in recent years we have had the dilemma of a seeming surplus of savings.

I hope, Mr. Chairman, that I have avoided as many controversial issues as possible, but I think that any concept of how we can get to 140 in the index of production, or get to 88 to 94 billions of dollars in national income, has got to take into account the flow of, incomes, it has to take into account what is the balance between purchasing power produced and the purchasing power spent at the receiving line, because somewhere in there is the nexus of a very, very real problem, and if you have the explanation of it, it would probably show why durable goods fall much more than do the nondurable, which are immediately consumed for the most part.

Mr. Davis. Mr. Henderson, can you give us the approximate latest figures during a normal year of the relative amount of the sales of durable and of nondurable goods?

Mr. Henderson. I can give it to you. I have charts for that.[2] I haven't got it in dollar terms.

The Chairman. May I suggest that you put the answer to the question in at the conclusion? We will let him proceed, Judge Davis, if you please.

[1] National Income and Outlay.
[2] Exhibits Nos. 86 and 87, supra, pp. 151 and 153.

Mr. HENDERSON. Another factor which has been a dislocating factor and has affected our basic assumption, of course, is the rise of consumer debt. In 1923, at the end of the year, we had about $4,900,000,000 of consumer debt; at the end of 1929 we had $8,800,000,000; at the end of 1933 this had got down to about $5,500,000,000; by June 30 of 1937 it had risen above $8,700,000,000.

That factor of new credit that is available, that is made available to consumers in such large amounts, is a factor which needs to be reckoned with in any consideration as to a competitive system. Its dislocating ability on the down side, its accelerating effect on the up side, is something which is only partially understood, and certainly a dislocation has taken place there of which we know very, very little.

Senator KING. That is the utilization of capital, however?

Mr. HENDERSON. The utilization of savings. It is not always technically that, if you are able to create bank credit. It has to be supported, however, paid off by savings at some time. It has to be paid off by savings eventually, or else——

The CHAIRMAN (interposing). There is a crash.

Mr. HENDERSON. "Repudiated," is the right word. I listed, Mr Chairman, among the things that have set aside, or moderated, the concepts of competitive capitalism, government intervention, and I don't believe that we need to go into an expanded definition of that.

Certainly the assumptions that we have had in the early days as to the place of Government was that of the umpire and as of the enforcer of rules, and it was felt that the least amount of intervention consistent with the maintenance of order was the best possible thing for competitive enterprise.

A list of Government intervention here and abroad would reach higher than Dr. Thorp pointed to yesterday with that pointer of his, and I am not prepared to go into it, but I think you will see, when we come to the outline of study, that we are taking note of Government intervention of all kinds.

I would like to point out, however, that Government intervention is not a new thing. It began in the early days of the tariff, it was of particular assistance in the expansion of railroads and toll gates; it takes form in the peculiar kinds of grants that come under corporations and patents, the expansion of tariffs, licenses, franchises, and things like that.

There was constantly what might be called a translation of the community's own property in terms of something that could be converted into purchasing power. When there was a grant of land it was possible to convert that into purchasing power, and it was only by means of conversion of that into purchasing power, for the employment of men and purchase of materials, that you really got an expansion.

All these that I have listed would constitute a partial list only of what has been done in the way of setting aside the American system of competition.

PROBLEMS CONFRONTING T.N.E.C.

Mr. HENDERSON. Many questions keep bubbling up from even the most casual consideration of the task. A full set of questions adequately phrased would be an admirable basis for outline of study and investigation. I cannot say that such a full set of questions is avail-

able. I can, however, state several which seem to indicate the greatest perplexity and in making this list I have not relied upon my own observation, though, of course, I am responsible for the selection.

The joint resolution which created the committee raised the basic interrogations.[1] By specific direction, the resolution includes within the frame of references the President's message to Congress of last April, Senate Document No. 173, Seventy-fifth Congress, third session, which is entitled "Strengthening and Enforcement of Antitrust Laws."[2]

In directing an investigation Congress has seldom had such a specific outline of the matters of reference. A part of the list of questions flows naturally from the ideas of the 12 members of the committee and their alternates, as I have come to know them myself, as well as the observations of advisers and assistants who are counseling upon or directing various studies under assignment from the committee.

In phrasing the questions I have not ignored ideas expressed in significant studies relating to competition or the observations by commentators to whom the subject matter of this inquiry is naturally a fertile field.

The over-all question seems to be, Why have we not had full employment and full utilization of our magnificent resources? Specific questions, however, are more directly pointed at the target.

These would include, without limitation or invidiousness:

What is the present status of competition? Has it lessened? Is the lack of self-adjustment of the economy due, wholly or in part, to decline in competition?

Can this country rely in the future on competition as the mainspring of its economic system? If so, what changes are necessary in public and private policy to make competition effective? If not, what are the alternative organizing forces available? Is the choice necessarily between full competition and full planning?

To what degree and in what areas has competition as the regulating force been set aside?

Are prevailing price and production policies implicitly based on vigorous price competition? To what extent is competition through development of the product a satisfactory substitute for price competition?

What are the wastes in the distributive system?

What devices, mechanisms, policies and organizational forms have been consciously utilized to defeat competition?

In what particular are the antitrust laws inadequate?

Is the lack of competition always due to conscious efforts, or are impersonal elements and forces also responsible?

Can economic effort be divided into monopoly and competition? Are both sometimes present? Does overcompetition exist?

What part has concentration played in the decline of competition? What part has size played? Is concentration on the increase? Is concentration an inevitable consequence of a developing industrial organization? Of the corporate form? What are proper standards for corporations doing interstate business?

Does concentration affect adversely or favorably the distribution of income? The efficiency of output? Is economic activity affected by the character of income distribution?

[1] See exhibit No. 2, appendix, p. 192.
[2] See exhibit No. 1, appendix, p. 185.

What results are expected to flow from competition? Can tests be constructed in terms of these expected results for measurement of accomplishment of industrial organizations? Could such tests be used to measure effectiveness of economic organization in cases where competition has legally been modified or set aside? Can these be applied to organizations of workers?

How flexible is the economy? Where is it inflexible? What standards of desirability of flexibility can be framed?

Why has new investment lagged? Is this lag likely to continue? Has the forward drive of the American economy stopped? Have we witnessed the end of our dynamic mass production, lower price, more employment policy? Are we in for stagnation or decline? What is the proper function of government in periods of underinvestment? Is government debt different from personal debt? Under what set of economic conditions can savings be absorbed? What is the influence of the present rate of return on investment?

Are our liberties endangered by the growth of private control? Is there a relation between collectivism in private industry and collectivism in government? How can the dignity and importance of the individual be enhanced by choices of economic policies? Should the Government intervene to afford the individual businessman a better status in competition?

Which segments of the economy have managed their prices and production? In which have these possibilities meant fewer jobs? What effects have patents had upon expansion of production?

What has been the record of success of government intervention in the various economic processes here and abroad?

Out of those questions, as they resided in the resolution, as they resided in the members of this committee, of course, Mr. Chairman, there was a first assignment of jobs to six agencies. The committee at its second meeting made an assignment to the six agencies that came in, and said, "We believe in terms of this resolution we can do this kind of job better from our own experience or from assignment from you as to some specific thing on which we believe you will need information."

With that as a base, and for the purpose of giving the widest amount of circulation to what this committee has outlined so far, and what are some of the things which seem to be immediately over the horizon which need study, I have undertaken to set down, as the last part of my statement today, what I consider the main lines of study that are indicated by the resolution and by these questions which I have raised.

I would say, offhand, that I do not need to read that.

The CHAIRMAN. I think that could very properly be put in the record. Without objection, this analysis of the main lines of study as indicated, will be inserted in the record at this point.

(Following is the material indicated for inclusion in the record.)

MAIN LINES OF STUDY INDICATED [1]

A. Concentration and control. Facts. Its causes. Over-all and specific industry studies. In natural resources, insurance, financial institutions, transportation, communications, distribution, etc. Patterns of control. Effect on competition, as shown by Government purchasing, price behavior, opportunities for entry by individuals and small enterprises, new investment and expansion. As related to costs, technical progress, labor policy, individual firm stability.

[1] Not all by Temporary National Economic Committee.

B. Price system and price policies. Patterns. Changes from competitive assumptions. Effect on general level of trade, and on demand for specific products. On long-time profits, consumption. Maintenance of prices versus maintenance of employment. Patterns and standards of desirability in rigid and flexible prices. The problem of balance.

C. Effect of governmental policies.

1. Specific policies; as named by resolution.

(*a*) Taxation: Burden on industries, relation to expansion and lack of new investment. As stimulus to activity.

(*b*) Patents, pools, specific abuses. Place in competitive enterprise. Litigation: Costs, duration, effect on small enterpriser. Delays in granting procedure. Division of ownership: Individuals and corporations. Utilization and suppression. As stimulus to activity. Key patents. Place in technological displacement.

(*c*) Adjustment of purchasing power to 1926 price level.

2. Government policies not specifically named by resolution.

(*a*) Compensatory fiscal policies.

(*b*) Governmental intervention; corporations, loan agencies, etc.

(*c*) Foreign trade, reciprocal trade agreements.

(*d*) Agricultural program.

(*e*) Housing.

(*f*) Governmental regulation. Lessons to be drawn from experience of Interstate Commerce Commission, Coal Commission, Securities and Exchange Commission, Federal Power Commission, Maritime Commission, Labor Board, Wage and Hour, Walsh-Healey, Federal Communications, etc.

(*g*) Social security.

(*h*) Results of other legislative committee studies: Munitions, holding companies, etc.

D. Bureau of Industrial Economics.

E. Socially and economically harmful competition.

F. Improvement of antitrust policy and procedure.

1. Codification of law as to restraints of trade, etc.

2. Procedural study: Investigation, enforcement, adjudicative processes.

3. Studies of foreign experience, relations of government and business abroad.

G. National standards for corporations.

H. Mergers, interlocking relationships, industrial, utility and bank holding companies, investment trusts.

I. Insurance companies. Organization, practices, importance in economy, investment policies, etc.

J. Corporate practices. Existing forms of business organization, trade associations, alternative forms.

K. Distribution. Marketing laws.

L. Credit mechanisms for small enterprises.

M. Over-all economic data and special studies. Consumer credit. Labor racketeering. Break-even points. Depreciation and cost accounting. Debt growth.

Mr. HENDERSON. I would like to emphasize, in putting that in, Mr. Chairman, that I think it is highly desirable, because it will let people know the kinds of things that we are interested in.

In these statements by Dr. Lubin, Dr. Thorp, and myself, we have attempted to survey the situation in which the Nation finds itself today in terms of those fundamentals which are at once the objective of any system of economic organization and the test of its success.

We have tried to show the relationship between these fundamentals and the simple essentials of everyday life. Necessarily, the problems and the significant facts have been presented in broad and general terms. There are notable omissions of discussion related to necessary adjuncts to the productive system, such as transportation, communications, financial institutions, and so forth.

But, in order that we may devise workable solutions of production and distribution problems on the basis of the facts, we must at all times bear in mind that the American economy is a vast and complex organic growth; that each industry, and, for that matter, each business

enterprise within an industry, is likewise an organic growth; and that, in consequence, to deal with national problems intelligently, we must approach them in much the same way as medical science approaches the problems of the human body, and not of original sin.

Naturally, any attempt at a full description of the anatomy of all American industries within the compass of these hearings is out of the question. The intention, therefore, is to present by reports and hearings a series of typical situations, drawn from different industries, and illustrating different problems.

The underlying connection among these varied situations will be their significance as living instances of the complicated and dynamic process which constitutes American industry. For their value as representative examples, naturally the research staff must take full responsibility.

The CHAIRMAN. Are there any questions to be asked? The committee, when it does stand in recess, will recess until 10:30 o'clock on Monday morning.

Are there any announcements that it is desirable for the chairman to make at this time? If there are no announcements to be made, the committee will stand in recess until Monday morning at 10:30 o'clock.

(Whereupon, at 12:35 p. m., an adjournment was taken until Monday, December 5, 1938, at 10:30 a. m.)

APPENDIX

Exhibit No. 1

[S. Doc. No. 173, 75th Cong., 3d sess.]

MESSAGE FROM THE PRESIDENT OF THE UNITED STATES TRANSMITTING RECOMMENDATIONS RELATIVE TO THE STRENGTHENING AND ENFORCEMENT OF ANTITRUST LAWS

To the Congress of the United States:

Unhappy events abroad have retaught us two simple truths about the liberty of a democratic people.

The first truth is that the liberty of a democracy is not safe if the people tolerate the growth of private power to a point where it becomes stronger than their democratic state itself. That, in its essence, is fascism—ownership of government by an individual, by a group, or by any other controlling private power.

The second truth is that the liberty of a democracy is not safe if its business system does not provide employment and produce and distribute goods in such a way as to sustain an acceptable standard of living.

Both lessons hit home.

Among us today a concentration of private power without equal in history is growing.

This concentration is seriously impairing the economic effectiveness of private enterprise as a way of providing employment for labor and capital and as a way of assuring a more equitable distribution of income and earnings among the people of the Nation as a whole.

I. THE GROWING CONCENTRATION OF ECONOMIC POWER

Statistics of the Bureau of Internal Revenue reveal the following amazing figures for 1935:

"Ownership of corporate assets: Of all corporations reporting from every part of the Nation, one-tenth of 1 percent of them owned 52 percent of the assets of all of them.

"And to clinch the point: Of all corporations reporting, less than 5 percent of them owned 87 percent of all the assets of all of them.

"Income and profits of corporations: Of all the corporations reporting from every part of the country, one-tenth of 1 percent of them earned 50 percent of the net income of all of them.

"And to clinch the point: Of all the manufacturing corporations reporting, less than 4 percent of them earned 84 percent of all the net profits of all of them."

The statistical history of modern times proves that in times of depression concentration of business speeds up. Bigger business then has larger opportunity to grow still bigger at the expense of smaller competitors who are weakened by financial adversity.

The danger of this centralization in a handful of huge corporations is not reduced or eliminated, as is sometimes urged, by the wide public distribution of their securities. The mere number of security holders gives little clue to the size of their individual holdings or to their actual ability to have a voice in the management. In fact, the concentration of stock ownership of corporations in the hands of a tiny minority of the population matches the concentration of corporate assets.

The year 1929 was a banner year for distribution of stock ownership.

But in that year three-tenths of 1 percent of our population received 78 percent of the dividends reported by individuals. This has roughly the same effect as if, out of every 300 persons in our population, 1 person received 78 cents out of every dollar of corporate dividends while the other 299 persons divided up the other 22 cents between them.

The effect of this concentration is reflected in the distribution of national income. A recent study by the National Resources Committee shows that in 1935–36—

"Forty-seven percent of all American families and single individuals living alone had incomes of less than $1,000 for the year; and at the other end of the ladder a little less than 1½ percent of the Nation's families received incomes which in dollars and cents reached the same total as the incomes of the 47 percent at the bottom."

Furthermore, to drive the point home, the Bureau of Internal Revenue reports that estate tax returns in 1936 show that—

"Thirty-three percent of the property which was passed by inheritence was found in only 4 percent of all the reporting estates. (And the figures of concentration would be far more impressive, if we included all the smaller estates which, under the law, do not have to report.)"

We believe in a way of living in which political democracy and free private enterprises for profit should serve and protect each other—to insure a maximum of human liberty not for a few but for all.

It has been well said that, "The freest government, if it could exist, would not be long acceptable if the tendency of the laws were to create a rapid accumulation of property in few hands, and to render the great mass of the population dependent and penniless."

Today many Americans ask the uneasy question: Is the vociferation that our liberties are in danger justified by the facts?

Today's answer on the part of average men and women in every part of the country is far more accurate than it would have been in 1929 for the very simple reason that during the past 9 years we have been doing a lot of common-sense thinking. Their answer is that if there is that danger it comes from that concentrated private economic power which is struggling so hard to master our democratic government. It will not come, as some (by no means all) of the possessors of that private power would make the people believe—from our democratic government itself.

II. FINANCIAL CONTROL OVER INDUSTRY

Even these statistics I have cited do not measure the actual degree of concentration of control over American industry.

Close financial control, through interlocking spheres of influence over channels of investment, and through the use of financial devices like holding companies and strategic minority interests, creates close control of the business policies of enterprises which masquerade as independent units.

That heavy hand of integrated financial and management control lies upon large and strategic areas of American industry. The small-business man is unfortunately being driven into a less and less independent position in American life. You and I must admit that.

Private enterprise is ceasing to be free enterprise and is becoming a cluster of private collectivisms; masking itself as a system of free enterprise after the American model, it is in fact becoming a concealed cartel system after the European model.

We all want efficient industrial growth and the advantages of mass production. No one suggests that we return to the hand loom or hand forge. A series of processes involved in turning out a given manufactured product may well require one or more huge mass-production plants. Modern efficiency may call for this. But modern efficient mass production is not furthered by a central control which destroys competition between industrial plants each capable of efficient mass production while operating as separate units. Industrial efficiency does not have to mean industrial empire building.

And industrial empire building, unfortunately, has evolved into banker control of industry. We oppose that.

Such control does not offer safety for the investing public. Investment judgment requires the disinterested appraisal of other people's management. It becomes blurred and distorted if it is combined with the conflicting duty of controlling the management it is supposed to judge.

Interlocking financial controls have taken from American business much of its traditional virility, independence, adaptability, and daring—without compensating advantages. They have not given the stability they promised.

Business enterprise needs new vitality and the flexibility that comes from the diversified efforts, independent judgments and vibrant energies of thousands upon thousands of independent businessmen.

The individual must be encouraged to exercise his own judgment and to venture his own small savings, not in stock gambling but in new enterprise investment. Men will dare to compete against men but not against giants.

III. THE DECLINE OF COMPETITION AND ITS EFFECTS ON EMPLOYMENT

In output per man or machine we are the most efficient industrial nation on earth.

In the matter of complete mutual employment of capital and labor we are among the least efficient.

Our difficulties of employing labor and capital are not new. We have had them since good, free land gave out in the West at the turn of the century. They were old before we undertook changes in our tax policy or in our labor and social legislation. They were caused not by this legislation but by the same forces which caused the legislation. The problem of bringing idle men and idle money together will not be solved by abandoning the forward steps we have taken to adjust the burdens of taxation more fairly and to attain social justice and security.

If you believe with me in private initiative, you must acknowledge the right of well-managed small business to expect to make reasonable profits. You must admit that the destruction of this opportunity follows concentration of control of any given industry into a small number of dominating corporations.

One of the primary causes of our present difficulties lies in the disappearance of price competition in many industrial fields, particularly in basic manufacture where concentrated economic power is most evident and where rigid prices and fluctuating pay rolls are general.

Managed industrial prices mean fewer jobs. It is no accident that in industries like cement and steel where prices have remained firm in the face of a falling demand pay rolls have shrunk as much as 40 and 50 percent in recent months. Nor is it mere chance that in most competitive industries where prices adjust themselves quickly to falling demand, pay rolls and employment have been far better maintained. By prices we mean, of course, the prices of the finished articles and not the wages paid to workers.

When prices are privately managed at levels above those which would be determined by free competition, everybody pays.

The contractor pays more for materials; the homebuilder pays more for his house; the tenant pays more rent; and the worker pays in lost work.

Even the Government itself is unable, in a large range of materials, to obtain competitive bids. It is repeatedly confronted with bids identical to the last cent.

Our housing shortage is a perfect example of how ability to control prices interferes with the ability of private enterprise to fill the needs of the community and provide employment for capital and labor.

On the other hand, we have some lines of business, large and small, which are genuinely competitive. Often these competitive industries must buy their basic products from monopolistic industry, thus losing, and causing the public to lose, a large part of the benefit of their own competitive policy. Furthermore, in times of recession, the practices of monopolistic industries make it difficult for business or agriculture, which is competitive and which does not curtail production below normal needs, to find a market for its goods even at reduced prices. For at such times a large number of customers of agriculture and competitive industry are being thrown out of work by those noncompetitive industries which choose to hold their prices rather than to move their goods and to employ their workers.

If private enterprise left to its own devices becomes half-regimented and half-competitive, half-slave and half-free, as it is today, it obviously cannot adjust itself to meet the needs and the demands of the country.

Most complaints for violations of the antitrust laws are made by businessmen against other businessmen. Even the most monopolistic businessman disapproves of all monopolies but his own. We may smile at this as being just an example of human nature, but we cannot laugh away the fact that the combined effect of the monopolistic controls which each business group imposes for its own benefit inevitably destroys the buying power of the Nation as a whole.

IV. COMPETITION DOES NOT MEAN EXPLOITATION

Competition, of course, like all other good things, can be carried to excess. Competition should not extend to fields where it has demonstrably bad social and economic consequences. The exploitation of child labor, the chiseling of workers' wages, the stretching of workers' hours, are not necessary, fair, or proper methods of competition. I have consistently urged a Federal wages-and-hours bill to

take the minimum decencies of life for the working man and woman out of the field of competition.

It is, of course, necessary to operate the competitive system of free enterprise intelligently. In gaging the market for their wares businessmen, like the farmers, should be given all possible information by government and by their own associations so that they may act with knowledge and not on impulse. Serious problems of temporary overproduction can and should be avoided by disseminating information that will discourage the production of more goods than the current markets can posibly absorb or the accumulation of dangerously large inventories for which there is no obvious need.

It is, of course, necessary to encourage rises in the level of those competitive prices, such as agricultural prices, which must rise to put our price structure into more workable balance and make the debt burden more tolerable. Many such competitive prices are now too low.

It may at times be necessary to give special treatment to chronically sick industries which have deteriorated too far for natural revival, especially those which have a public or quasi-public character.

But generally over the field of industry and finance we must revive and strengthen competition if we wish to preserve and make workable our traditional system of free private enterprise.

The justification of private profit is private risk. We cannot safely make America safe for the businessman who does not want to take the burdens and risks of being a businessman.

V. THE CHOICE BEFORE US

Examination of methods of conducting and controlling private enterprise which keep it from furnishing jobs or income or opportunity for one-third of the population is long overdue on the part of those who sincerely want to preserve the system of private enterprise for profit.

No people, least of all a democratic people, will be content to go without work or to accept some standard of living which obviously and woefully falls short of their capacity to produce. No people, least of all a people with our traditions of personal liberty, will endure the slow erosion of opportunity for the common man, the oppressive sense of helplessness under the domination of a few, which are overshadowing our whole economic life.

A discerning magazine of business has editorially pointed out that big-business collectivism in industry compels an ultimate collectivism in government.

The power of a few to manage the economic life of the Nation must be diffused among the many or be transferred to the public and its democratically responsible government. If prices are to be managed and administered, if the Nation's business is to be allotted by plan and not by competition, that power should not be vested in any private group or cartel, however benevolent its professions profess to be.

Those people, in and out of the halls of government, who encourage the growing restriction of competition either by active efforts or by passive resistance to sincere attempts to change the trend, are shouldering a terrific responsibility. Consciously or unconsciously they are working for centralized business and financial control. Consciously or unconsciously they are therefore either working for control of the Government itself by business and finance or the other alternative—a growing concentration of public power in the Government to cope with such concentration of private power.

The enforcement of free competition is the least regulation business can expect.

VI. A PROGRAM

The traditional approach to the problems I have discussed has been through the antitrust laws. That approach we do not propose to abandon. On the contrary, although we must recognize the inadequacies of the existing laws, we seek to enforce them so that the public shall not be deprived of such protection as they afford. To enforce them properly requires thorough investigation not only to discover such violations as may exist but to avoid hit-and-miss prosecutions harmful to business and government alike. To provide for the proper and fair enforcement of the existing antitrust laws I shall submit, through the Budget, recommendations for a deficiency appropriation of $200,000 for the Department of Justice.

But the existing antitrust laws are inadequate—most importantly because of new financial economic conditions with which they are powerless to cope.

The Sherman Act was passed nearly 40 years ago. The Clayton and Federal Trade Commission Acts were passed over 20 years ago. We have had considerable experience under those acts. In the meantime we have had a chance to observe the practical operation of large-scale industry and to learn many things about the competitive system which we did not know in those days.

We have witnessed the merging out of effective competition in many fields of enterprise. We have learned that the so-called competitive system works differently in an industry where there are many independent units, from the way it works in an industry where a few large producers dominate the market.

We have also learned that a realistic system of business regulation has to reach more than consciously immoral acts. The community is interested in economic results. It must be protected from economic as well as moral wrongs. We must find practical controls over blind economic forces as well as over blindly selfish men.

Government can deal and should deal with blindly selfish men. But that is a comparatively small part—the easier part—of our problem. The larger, more important, and more difficult part of our problem is to deal with men who are not selfish and who are good citizens, but who cannot see the social and economic consequences of their actions in a modern economically interdependent community. They fail to grasp the significance of some of our most vital social and economic problems because they see them only in the light of their own personal experience and not in perspective with the experience of other men and other industries. They therefore fail to see these problems for the Nation as a whole.

To meet the situation I have described, there should be a thorough study of the concentration of economic power in American industry and the effect of that concentration upon the decline of competition. There should be an examination of the existing price system and the price policies of industry to determine their effect upon the general level of trade, upon employment, upon long-term profits, and upon consumption. The study should not be confined to the traditional antitrust field. The effects of tax, patent, and other Government policies cannot be ignored.

The study should be comprehensive and adequately financed. I recommend an appropriation of not less than $500,000 for the conduct of such comprehensive study by the Federal Trade Commission, the Department of Justice, the Securities and Exchange Commission, and such other agencies of government as have special experience in various phases of the inquiry.

I enumerate some of the items that should be embraced in the proposed study. The items are not intended to be all inclusive. One or two of the items, such as bank holding companies and investment trusts, have already been the subject of special study, and legislation concerning these need not be delayed.

(1) *Improvement of antitrust procedure.*—A revision of the existing antitrust laws should make them susceptible of practical enforcement by casting upon those charged with violations the burden of proving facts peculiarly within their knowledge. Proof by the Government of identical bids, uniform price increases, price leadership, higher domestic than export prices, or other specified price rigidities might be accepted as prima facie evidence of unlawful actions.

The Department of Justice and the Federal Trade Commission should be given more adequate and effective power to investigate whenever there is reason to believe that conditions exist or practices prevail which violate the provisions or defeat the objectives of the antitrust laws. If investigation reveals border-line cases where legitimate cooperative efforts to eliminate socially and economically harmful methods of competition in particular industries are thwarted by fear of possible technical violations of the antitrust laws, remedial legislation should be considered.

As a really effective deterrent to personal wrongdoing, I would suggest that where a corporation is enjoined from violating the law, the court might be empowered to enjoin the corporation for a specified period of time from giving any remunerative employment or any official position to any person who has been found to bear a responsibility for the wrongful corporate action.

As a further deterrent to corporate wrongdoing the Government might well be authorized to withhold Government purchases from companies guilty of unfair or monopolistic practice.

(2) *Mergers and interlocking relationships.*—More rigid scrutiny through the Federal Trade Commission and the Securities and Exchange Commission of corporate mergers, consolidations, and acquisitions than that now provided by the Clayton Act to prevent their consummation when not clearly in the public

interest; more effective methods for breaking up interlocking relationships and like devices for bestowing business by favor.

(3) *Financial controls.*—The operations of financial institutions should be directed to serve the interests of independent business and restricted against abuses which promote concentrations of power over American industry.

(*a*) *Investment trusts.*—Investment trusts should be brought under strict control to insure their operations in the interests of their investors rather than of their managers. The Securities and Exchange Commission is to make a report to Congress on the results of a comprehensive study of investment trusts and their operations which it has carried on for nearly 2 years. The investment trust, like the holding company, puts huge aggregations of the capital of the public at the direction of a few managers. Unless properly restricted, it has potentialities of abuse second only to the holding company as a device for the further centralization of control over American industry and American finance.

The tremendous investment funds controlled by our great insurance companies have a certain kinship to investment trusts, in that these companies invest as trustees the savings of millions of our people. The Securities and Exchange Commission should be authorized to make an investigation of the facts relating to these investments with particular relation to their use as an instrument of economic power.

(*b*) *Bank holding companies.*—It is hardly necessary to point out the great economic power that might be wielded by a group which may succeed in acquiring domination over banking resources in any considerable area of the country. That power becomes particularly dangerous when it is exercised from a distance and notably so when effective control is maintained without the responsibilities of complete ownership.

We have seen the multiplied evils which have arisen from the holding-company system in the case of public utilities, where a small minority ownership has been able to dominate a far-flung system.

We do not want those evils repeated in the banking field, and we should take steps now to see that they are not.

It is not a sufficient assurance against the future to say that no great evil has yet resulted from holding-company operations in this field. The possibilities of great harm are inherent in the situation.

I recommend that the Congress enact at this session legislation that will effectively control the operation of bank-holding companies; prevent holding companies from acquiring control of any more banks, directly or indirectly; prevent banks controlled by holding companies from establishing any more branches; and make it illegal for a holding company, or any corporation or enterprise in which it is financially interested, to borrow from or sell securities to a bank in which it holds stock.

I recommend that this bank legislation make provision for the gradual separation of banks from holding-company control or ownership, allowing a reasonable time for this accomplishment—time enough for it to be done in an orderly manner and without causing inconvenience to communities served by holding-company banks.

(4) *Trade associations.*—Supervision and effective publicity of the activities of trade associations, and a clarification and delineation of their legitimate spheres of activity which will enable them to combat unfair methods of competition, but which will guard against their interference with legitimate competitive practices.

(5) *Patent laws.*—Amendment of the patent laws to prevent their use to suppress inventions, and to create industrial monopolies. Of course, such amendment should not deprive the inventor of his royalty rights, but, generally speaking, future patents might be made available for use by anyone upon payment of appropriate royalties. Open patent pools have voluntarily been put into effect in a number of important industries with wholesome results.

(6) *Tax correctives.*—Tax policies should be devised to give affirmative encouragement to competitive enterprise.

Attention might be directed to increasing the intercorporate dividend tax to discourage holding companies and to further graduating the corporation income tax according to size. The graduated tax need not be so high as to make bigness impracticable, but might be high enough to make bigness demonstrate its alleged superior efficiency.

We have heard much about the undistributed profits tax. When it was enacted 2 years ago, its objective was known to be closely related to the problem of concentrated economic power and a free capital market.

Its purpose was not only to prevent individuals whose incomes were taxable in the higher surtax brackets from escaping personal income taxes by letting

their profits be accumulated as corporate surplus. Its purpose was also to encourage the distribution of corporate profits so that the individual recipients could freely determine where they would reinvest in a free capital market.

It is true that the form of the 1936 tax worked a hardship on many of the smaller corporations. Many months ago I recommended that these inequities be removed.

But in the process of the removal of inequities, we must not lose sight of original objectives. Obviously the Nation must have some deterrent against special privileges enjoyed by an exceedingly small group of individuals under the form of the laws prior to 1936, whether such deterrent take the form of an undistributed-profits tax or some other equally or more efficient method. And obviously an undistributed profits tax has a real value in working against a further concentration of economic power and in favor of a freer capital market.

(7) *Bureau of Industrial Economics.*—Creation of a Bureau of Industrial Economics which should be endowed with adequate powers to supplement and supervise the collection of industrial statistics by trade associations. Such a bureau should perform for businessmen functions similar to those performed for the farmers by the Bureau of Agricultural Economics.

It should disseminate current statistical and other information regarding market conditions and be in a position to warn against the dangers of temporary overproduction and excessive inventories as well as against the dangers of shortages and bottleneck conditions and to encourage the maintenance of orderly markets. It should study trade fluctuations, credit facilities, and other conditions which affect the welfare of the average businessman. It should be able to help small-business men to keep themselves as well informed about trade conditions as their big competitors.

No man of good faith will misinterpret these proposals. They derive from the oldest American traditions. Concentration of economic power in the few and the resulting unemployment of labor and capital are inescapable problems for a modern "private enterprise" democracy. I do not believe that we are so lacking in stability that we will lose faith in our own way of living just because we seek to find out how to make that way of living work more effectively.

This program should appeal to the honest common sense of every independent businessman interested primarily in running his own business at a profit rather than in controlling the business of other men.

It is not intended as the beginning of any ill-considered "trust-busting" activity which lacks proper consideration for economic results.

It is a program to preserve private enterprise for profit by keeping it free enough to be able to utilize all our resources of capital and labor at a profit.

It is a program whose basic purpose is to stop the progress of collectivism in business and turn business back to the democratic competitive order.

It is a program whose basic thesis is not that the system of free private enterprise for profit has failed in this generation, but that it has not yet been tried.

Once it is realized that business monopoly in America paralyzes the system of free enterprise on which it is grafted, and is as fatal to those who manipulate it as to the people who suffer beneath its impositions, action by the Government to eliminate these artificial restraints will be welcomed by industry throughout the Nation.

For idle factories and idle workers profit no man.

FRANKLIN D. ROOSEVELT.

THE WHITE HOUSE, *April 29, 1938.*

EXHIBIT No. 2

[PUBLIC RESOLUTION—No. 113—75TH CONGRESS]

[CHAPTER 456—3D SESSION]

[S. J. Res. 300]

JOINT RESOLUTION To create a temporary national economic committee

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby established a temporary national economic committee (hereinafter referred to as the "committee"), to be composed of (1) three Members of the Senate, to be appointed by the President of the Senate; (2) three Members of the House of Representatives, to be appointed by the Speaker of the House of Representatives; and (3) one representative from each of the following departments and agencies, to be designated by the respective heads thereof: Department of Justice, Department of the Treasury, Department of Labor, Department of Commerce, the Securities and Exchange Commission, and the Federal Trade Commission. Such representative may designate an alternate to sit and act for him on the committee in his absence. Any such alternate, while so acting, shall have the same rights, powers, and duties as are conferred and imposed upon a member of the committee by this joint resolution. Any member appointed under clauses (1) and (2) may, when unable to attend a meeting of the committee, authorize another such member to act and vote for him in his absence. A vacancy in the committee shall not affect the power of the remaining members to executive the functions of the committee and shall be filled in the same manner as the original selection.

SEC. 2. It shall be the duty of the committee—

(a) To make a full and complete study and investigation with respect to the matters referred to in the President's message of April 29, 1938, on monopoly and the concentration of economic power in and financial control over production and distribution of goods and services and to hear and receive evidence thereon, with a view to determining, but without limitation, (1) the causes of such concentration and control and their effect upon competition; (2) the effect of the existing price system and the price policies of industry upon the general level of trade, upon employment, upon long-term profits, and upon consumption; and (3) the effect of existing tax, patent, and other Government policies upon competition, price levels, unemployment, profits, and consumption; and shall investigate the subject of governmental adjustment of the purchasing power of the dollar so as to attain 1926 commodity price levels; and

(b) To make recommendation to Congress with respect to legislation upon the foregoing subjects, including the improvement of antitrust policy and procedure and the establishment of national standards for corporations engaged in commerce among the States and with foreign nations.

SEC. 3. (a) The committee shall have power to appoint subcommittees to assist the committee in its work. The members of the committee shall serve without additional compensation but shall be reimbursed for travel, subsistence, and other necessary expenses incurred by them in the exercise of the functions vested in the committee.

(b) The Department of Justice, Department of the Treasury, Department of Labor, Department of Commerce, the Securities and Exchange Commission, and the Federal Trade Commission are directed to appear before the committee or its designee and present evidence by examination of witnesses or the introduction of documents and reports. The evidence presented by each of these agencies shall cover the subject matter of this inquiry which is within its administrative jurisdiction under existing law or which may be assigned to such agencies by the committee. Each such agency is authorized to request the committee to issue such subpoenas as such agency may require for the attendance of witnesses and the production of documents and reports.

(c) The committee shall have power to employ and fix the compensation of such officers, experts, and employees as it deems necessary for the performance of its duties. The committee is authorized to utilize the services, information, facilities, and personnel of the departments and agencies of the Government.

SEC. 4. (a) Prior to the opening of the first session of the Seventy-sixth Congress or as soon thereafter as is practicable the committee shall transmit to the President and to the Congress preliminary reports of the studies and investigations carried on by it, and by the departments and agencies represented thereon, together with the findings and recommendations of the committee, and shall submit to the

President and to the Congress as soon as practicable thereafter, during or prior to the termination of the Seventy-sixth Congress, further and final reports of the studies and investigations carried out pursuant to this resolution, together with the findings and recommendations of the committee.

(b) A majority of the committee shall constitute a quorum, and the powers conferred upon them by this joint resolution may be exercised by a majority vote.

(c) All authority conferred by this joint resolution shall terminate upon the expiration of the Seventy-sixth Congress.

SEC. 5. For the purpose of this joint resolution the committee, or any subcommittee designated by it, shall be entitled to exercise the same powers and rights as are conferred upon the Securities and Exchange Commission by subsection (c) of section 18 of the Act of August 26, 1935 (49 Stat. 831); and the provisions of subsections (d) and (e) of such section shall be applicable to all persons summoned by subpoena or otherwise to attend and testify or to produce books, papers, correspondence, memoranda, contracts, agreements, or other records and documents before the committee.

SEC. 6. (a) There is hereby authorized to be appropriated, out of any money in the Treasury not otherwise appropriated, the sum of $500,000, or so much thereof as may be necessary, to carry out the provisions of this joint resolution.

(b) Of the funds authorized to be appropriated under subsection (a), not to exceed $100,000 shall be immediately available for expenditure by the committee in carrying out its functions and not to exceed $400,000 shall be available, as the President shall direct, among the departments and agencies represented on the committee to enable them to carry out their functions under this joint resolution.

Approved, June 16, 1938.

EXHIBIT NO. 3

PROCEDURE WITH RESPECT TO HEARINGS BEFORE TEMPORARY NATIONAL ECONOMIC COMMITTEE CONDUCTED BY VARIOUS MEMBER DEPARTMENTS AND COMMISSIONS UNDER SECTION 3 (B) JOINT RESOLUTION NO. 113, SEVENTY-FIFTH CONGRESS

I. *Hearings on reports.*—It is the view of the Executive Committee that as general practice, it will not be necessary or desirable to have public hearings on reports submitted to the Temporary National Economic Committee by the various departments and commissions. Certainly as respects reports based on material deduced at public hearings, a public hearing on such a report would be wholly unnecessary. As respects statistical and general economic reports, the same conclusion seems obvious. There may be, however, some types of reports on which there should be public hearings. In such cases it is recommended that the procedure for presentation of the report at a public hearing be worked out by the committee case by case.

II. *Hearings on investigations.*—It is our conclusion that hearings based on data and evidence, collected as a result of investigations and assembled by the various departments and commissions represented on the committee, be conducted in the following manner:

(*a*) These hearings will be before the full committee, or a subcommittee, as the case may be, and presented by the representatives of the department or commission which has conducted the investigation.

(*b*) The list of witnesses to be called will be prepared and submitted by the department or commission which has conducted the investigation.

(*c*) Each witness will appear under subpena and testify under oath.

(*d*) In all examination of witnesses, the rules of evidence shall be observed but liberally construed.

(*e*) Witnesses will not be allowed to substitute prepared statements for testimony; nor will prepared statements dealing with facts be allowed to be introduced at the hearings except with the consent of the department or commission making the presentation, unless the committee in a particular instance otherwise orders.

(*f*) At a later stage in the hearings, opportunity will be afforded interested persons to present to the committee their views as to what solution or solutions of particular problems would be desirable or necessary. The agenda for presentation of such suggestions should be prepared in the first instance by the respective departments and commissions and presented to the committee for approval before such hearings are held.

Exhibit No. 4

[Chart based on following statistical data appears in text on p. 4]

United States population

1850	23, 260, 638	1910	92, 267, 080
1855	27, 386, 359	1915	99, 342, 625
1860	31, 502, 613	1920	106, 543, 031
1865	35, 060, 138	1925	114, 867, 141
1870	38, 655, 016	1930	122, 775, 000
1875	44, 453, 721	1935	127, 354, 000
1880	50, 262, 382	1940	131, 993, 000
1885	56, 658, 347	1945	136, 447, 000
1890	63, 056, 438	1950	140, 561, 000
1895	69, 579, 868	1955	144, 093, 000
1900	76, 129, 408	1960	146, 987, 000
1905	84, 219, 378		

Source: National Resources Committee, Problems of a Changing Population, p. 24, table 2. Continental United States only. The estimates for 1940 to 1960 were prepared for the National Resources Committee under the direction of Warren S. Thompson and P. K. Whelpton, of the Scripps Foundation for Research in Population Problems, and assume medium fertility and mortality and no net immigration.

Exhibit No. 5

[Chart based on following statistical data appears in text on p. 5]

United States national income

Year	Total	Per capita	Year	Total	Per capita
1850	$2, 200, 000, 000	$95	1921	$50, 700, 000, 000	$468
1860	3, 600, 000, 000	115	1922	58, 700, 000, 000	535
1870	6, 700, 000, 000	174	1923	68, 000, 000, 000	610
1880	7, 400. 000, 000	147	1924	67, 900, 000, 000	600
1890	12, 100, 000, 000	192	1925	72, 800, 000, 000	633
1900	18, 000, 000, 000	236	1926	75, 000, 000, 000	643
1909	29, 200, 000, 000	322	1927	73, 800, 000, 000	624
1910	30, 700. 000, 000	333	1928	77, 600, 000, 000	648
1911	30, 600, 000, 000	327	1929	81, 100, 000, 000	668
1912	33, 200, 000, 000	349	1930	68, 300, 000, 000	555
1913	35, 000, 000, 000	363	1931	53, 800, 000, 000	434
1914	34, 100, 000, 000	348	1932	40, 000, 000, 000	320
1915	37, 100, 000, 000	373	1933	42, 300, 000, 000	336
1916	45, 800, 000, 000	455	1934	50, 100, 000, 000	395
1917	53, 300, 000, 000	522	1935	55, 200, 000, 000	433
1918	58, 900, 000, 000	569	1936	63, 500, 000, 000	494
1919	67, 400, 000, 000	641	1937	69, 800, 000, 000	540
1920	68, 100, 000, 000	639	1938	[1] 61, 500, 000, 000	[1] 472

[1] Estimated.

Sources: U. S. Department of Commerce, for 1929–38; Kuznets in National Income and Capital Formation, 1919–35, the National Bureau of Economic Research, on 1919–28; and W. I. King, in Wealth and Income of the People of the United States, for 1850–1918; spliced into a single reasonably comparable series by the Department of Commerce. Reduced to a per-capita basis by use of population estimates for the Continental United States prepared by the Census Bureau.

Exhibit No. 6

[Chart based on following statistical data appears in text on p. 9]

National income in constant prices

[1926=100]

1850	4. 7	1921	69. 3
1860	7. 9	1922	81. 0
1870	10. 3	1923	90. 2
1880	15. 2	1924	92. 3
1890	28. 6	1925	93. 8
1900	42. 8	1926	100. 0
1909	57. 5	1927	103. 1
1910	58. 1	1928	107. 0
1911	62. 9	1929	113. 4
1912	64. 1	1930	105. 4
1913	66. 9	1931	98. 2
1914	66. 8	1932	82. 3
1915	71. 2	1933	85. 6
1916	71. 5	1934	90. 3
1917	60. 5	1935	92. 0
1918	59. 8	1936	104. 8
1919	64. 9	1937	107. 9
1920	58. 8		

Source: National income data given in table 5, transformed into a relative with 1926=100, and reduced approximately to constant prices by use of the Index of Wholesale Prices since 1800, published by the Bureau of Labor Statistics.

Exhibit No. 7

[Chart based on following statistical data appears in text on p. 10]

National income

Year	Current prices	1929 prices	Year	Current prices	1929 prices
1919	$61, 842, 000, 000	$57, 762, 000, 000	1928	$80, 970, 000, 000	$80, 925, 000, 000
1920	74, 969, 000, 000	61, 342, 000, 000	1929	84, 111, 000, 000	84, 094, 000, 000
1921	59, 393, 000, 000	55, 804, 000, 000	1930	73, 297, 000, 000	75, 003, 000, 000
1922	60, 254, 000, 000	60, 858, 000, 000	1931	56, 000, 000, 000	62, 529, 000, 000
1923	70, 799, 000, 000	70, 173, 000, 000	1932	39, 184, 000, 000	48, 116, 000, 000
1924	71, 257, 000, 000	70, 756, 000, 000	1933	38, 824, 000, 000	50, 539, 000, 000
1925	75, 621, 000, 000	73, 872, 000, 000	1934	47, 834, 000, 000	59, 257, 000, 000
1926	80, 192, 000, 000	77, 654, 000, 000	1935	53, 110, 000, 000	63, 577, 000, 000
1927	78, 128, 000, 000	77, 048, 000, 000			

Source: Kuznets National Income and Capital Formation, 1919–35, table 1 and appendix I, published by the National Bureau of Economic Research. Unadjusted for disparity between depreciation, depletion, and fire losses at book value and reproduction prices.

Exhibit No. 8

[Chart based on following statistical data appears in text on p. 11]

Per capita national income, 1934–35

United States	$432	Sweden	$321
England	401	France	267
Germany	345		

Source: Tax Systems of the World, published by the Tax Research Foundation, 1938, p. 374.

Exhibit No. 9

[Chart based on following statistical data appears in text on p. 13]

Employment lost in depression in nonagricultural occupations (man-years)

Year	Employment	Loss from 1929	Year	Employment	Loss from 1929
1929	36, 141, 000		1935	31, 482, 000	4, 659, 000
1930	33, 925, 000	2, 216, 000	1936	33, 201, 000	2, 940, 000
1931	30, 870, 000	5, 271, 000	1937	34, 557, 000	1, 584, 000
1932	27, 661, 000	8, 480, 000	1938	[1] 32, 153, 000	[1] 3, 988, 000
1933	27, 726, 000	8, 415, 000			
1934	30, 259, 000	5, 882, 000	Total loss 1930–38		43, 435, 000

[1] Estimated.

Source of basic data: Bureau of Labor Statistics. The annual employment figures are averages of monthly figures.

Exhibit No. 10

[Chart based on following statistical data appears in text on p. 14]

Salaries and wages lost in depression in nonagricultural occupations

Year	Salaries and wages paid	Loss from 1939	Year	Salaries and wages paid	Loss from 1929
1929	$49, 260, 000, 000		1936	$37, 418, 000, 000	$11, 842, 000, 000
1930	45, 453, 000, 000	$3, 807, 000, 000	1937	42, 086, 000, 000	7, 174, 000, 000
1931	38, 299, 000, 000	10, 961, 000, 000	1938	[1] 38, 500, 000, 000	[1] 10, 760, 000, 000
1932	29, 941, 000, 000	19, 319, 000, 000			
1933	27, 479, 000, 000	21, 781, 000, 000	Total loss, 1930–38		119, 354, 000, 000
1934	31, 138, 000, 000	18, 122, 000, 000			
1935	33, 672, 000, 000	15, 588, 000, 000			

[1] Estimated.

Source of basic data: From estimates of "monthly income payments," showing compensation of employees in nonagricultural industries, made by the National Income Section of the Division of Economic Research of the Bureau of Foreign and Domestic Commerce, Department of Commerce.

Exhibit No. 11

[Chart based on following statistical data appears in text on p. 15]

Dividends lost in depression

Year	Dividend payments to individuals	Loss from 1929	Year	Dividend payments to individuals	Loss from 1929
1929	$6, 000, 000, 000		1936	$4, 300, 000, 000	$1, 700, 000, 000
1930	5, 800, 000, 000	$200, 000, 000	1937	5, 000, 000, 000	1, 000, 000, 000
1931	4, 300, 000, 000	1, 700, 000, 000	1938	[1] 3, 800, 000, 000	[1] 2, 200, 000, 000
1932	2, 700, 000, 000	3, 300, 000, 000			
1933	2, 200, 000, 000	3, 800, 000, 000	Total loss, 1930–38		20, 100, 000, 000
1934	2, 800, 000, 000	3, 200, 000, 000			
1935	3, 000, 000, 000	3, 000, 000, 000			

[1] Estimated.

Source of basic data: Estimates of dividends "originated" prepared by the National Income Section of the Division of Economic Research of the Bureau of Foreign and Domestic Commerce, Department of Commerce.

EXHIBIT No. 12

[Chart based on following statistical data appears in text on p. 16]

Gross farm income lost in depression

Year	Gross farm income	Loss from 1929	Year	Gross farm income	Loss from 1929
1929	$12,000,000,000		1936	$9,000,000,000	$3,000,000,000
1930	9,800,000,000	$2,200,000,000	1937	9,600,000,000	2,300,000,000
1931	7,000,000,000	5,000,000,000	1938	[1] 8,400,000,000	[1] 3,800,000,000
1932	5,300,000,000	6,700,000,000			
1933	6,000,000,000	6,000,000,000	Total loss, 1930-38		38,400,000,000
1934	6,800,000,000	5,200,000,000			
1935	7,800,000,000	4,200,000,000			

[1] Estimated.

Source of basic data: U. S. Department of Agriculture. Government payments are not included.

EXHIBIT No. 13

[Chart based on following statistical data appears in text on p. 17]

National income lost in depression at 1929 prices

Year	National income	Loss from 1929	Year	National income	Loss from 1929
1929	$81,100,000,000		1936	$76,700,000,000	$4,400,000,000
1930	70,200,000,000	$10,900,000,000	1937	81,000,000,000	100,000,000
1931	60,500,000,000	20,600,000,000	1938	[1] 73,700,000,000	[1] 7,400,000,000
1932	49,800,000,000	31,300,000,000			
1933	55,200,000,000	25,900,000,000	Total loss, 1930-38		132,600,000,000
1934	62,700,000,000	18,400,000,000			
1935	67,500,000,000	13,600,000,000			

[1] Estimated.

Source: Estimates of national income made by the National Income Section of the Division of Economic Research of the Bureau of Foreign and Domestic Commerce, Department of Commerce, expressed in terms of 1929 prices by the Division of Economic Research, Bureau of Foreign and Domestic Commerce, using indices compiled by Mr. Fabricant, of the National Bureau of Economic Research, and by the Cost of Living Division of the Bureau of Labor Statistics.

EXHIBIT No. 13-A

[Chart based on following statistical data appears in text on p. 20]

Distribution of national income by type of payment excluding income from Government

Year	Compensation of employees	Miscellaneous net incomes	Interest, dividends, and accrued incomes	Total
1919	$36,703,000,000	$17,191,000,000	$7,025,000,000	$60,919,000,000
1920	43,383,000,000	15,476,000,000	9,204,000,000	68,063,000,000
1921	33,348,000,000	12,756,000,000	6,637,000,000	53,241,000,000
1922	36,194,000,000	11,414,000,000	6,090,000,000	53,698,000,000
1923	42,541,000,000	12,867,000,000	8,238,000,000	63,646,000,000
1924	42,360,000,000	13,550,000,000	7,987,000,000	63,897,000,000
1925	44,412,000,000	13,900,000,000	9,681,000,000	67,993,000,000
1926	47,356,000,000	13,574,000,000	11,118,000,000	72,048,000,000
1927	46,834,000,000	12,723,000,000	10,041,000,000	69,598,000,000
1928	48,299,000,000	12,852,000,000	11,313,000,000	72,464,000,000
1929	50,964,000,000	12,850,000,000	11,762,000,000	75,576,000,000
1930	45,629,000,000	10,537,000,000	8,947,000,000	65,113,000,000
1931	37,507,000,000	6,936,000,000	4,915,000,000	49,358,000,000
1932	27,857,000,000	4,169,000,000	1,298,000,000	33,324,000,000
1933	26,386,000,000	4,662,000,000	756,000,000	31,804,000,000
1934	30,475,000,000	6,131,000,000	3,436,000,000	40,042,000,000

Source: Kuznets, National Income and Capital Formation, 1919-35, published by the National Bureau of Economic Research. Income payments by the Government have been excluded. "Miscellaneous net incomes" includes incomes of unincorporated businesses, farmers, professional men and the estimated net income from home ownership of persons occupying homes they own. "Accrued incomes" are the additions to the surplus accounts of business corporations.

Exhibit No. 14

[Chart based on following statistical data appears in text on p. 21]

Monthly income payments

[Indices—1929 average for total=100]

	Total income payments	Compensation of employees	Entrepreneurial income	Dividends and interest	Direct relief	Payments to veterans
1929:						
January	97.8	63.6	20.2	14.0	0.06	----------
February	98.2	64.0	20.2	14.1	.06	----------
March	98.3	64.3	19.8	14.2	.06	----------
April	98.5	64.4	19.8	14.3	.06	----------
May	99.0	65.1	19.5	14.3	.06	----------
June	99.6	65.7	19.5	14.4	.05	----------
July	101.1	66.5	20.0	14.5	.06	----------
August	102.9	67.3	20.8	14.7	.06	----------
September	102.1	67.2	20.0	14.8	.06	----------
October	102.4	66.8	20.7	14.8	.06	----------
November	100.2	65.7	19.6	14.9	.06	----------
December	100.0	65.2	19.8	15.0	.08	----------
1930:						
January	99.8	65.2	19.5	15.0	.09	----------
February	97.4	63.1	19.3	14.9	.09	----------
March	96.1	62.5	18.6	14.9	.11	----------
April	95.9	62.1	18.9	14.8	.11	----------
May	95.7	62.1	18.8	14.7	.09	----------
June	94.7	61.7	18.4	14.6	.08	----------
July	93.1	60.8	17.9	14.3	.09	----------
August	92.2	59.8	18.2	14.1	.09	----------
September	91.1	59.2	17.9	13.9	.09	----------
October	89.4	58.0	17.5	13.8	.12	----------
November	87.9	56.8	17.3	13.6	.14	----------
December	86.6	55.8	17.1	13.4	.21	----------
1931:						
January	85.1	54.6	17.0	13.3	.23	----------
February	84.4	54.3	16.7	13.1	.24	0.08
March	88.6	54.0	16.6	13.0	.26	4.69
April	88.5	53.7	16.3	12.9	.24	5.39
May	83.1	52.7	15.9	12.8	.26	1.41
June	81.0	52.2	15.3	12.7	.24	.60
July	79.5	51.3	15.1	12.5	.26	.38
August	77.6	50.3	14.5	12.3	.23	.29
September	75.4	49.2	13.7	12.1	.23	.26
October	74.2	48.0	13.8	11.9	.26	.26
November	73.6	47.2	14.1	11.7	.29	.20
December	72.4	46.5	13.7	11.6	.38	.32
1932:						
January	70.8	45.2	13.5	11.4	.41	.29
February	69.7	44.3	13.6	11.1	.49	.18
March	68.0	43.2	13.1	10.9	.58	.15
April	66.4	42.2	12.8	10.7	.50	.15
May	64.7	41.0	12.5	10.5	.52	.14
June	62.3	39.7	11.7	10.3	.52	.14
1932:						
July	60.7	38.3	11.5	10.1	.47	.32
August	60.2	37.9	11.5	9.9	.54	.40
September	61.1	39.3	11.3	9.8	.54	.17
October	59.4	38.0	11.0	9.7	.61	.12
November	59.1	37.6	11.1	9.5	.73	.09
December	58.0	36.9	10.8	9.3	.89	.09
1933:						
January	57.9	37.0	11.0	9.2	.70	.09
February	56.9	36.5	10.5	9.1	.75	.08
March	55.1	34.9	10.3	9.0	.86	.11
April	55.3	35.0	10.5	9.0	.77	.09
May	56.2	35.4	11.0	9.0	.72	.08
June	57.8	36.8	11.2	9.0	.69	.08
July	57.8	36.8	11.3	9.1	.63	.06
August	59.1	38.5	10.9	9.1	.60	.05
September	60.5	39.4	11.2	9.2	.60	.05
October	61.0	39.8	11.3	9.3	.63	.05
November	61.3	39.9	11.4	9.3	.75	.05
December	63.0	41.7	11.2	9.2	.80	.05

Monthly income payments—Continued

	Total income payments	Compensation of employees	Entrepreneurial income	Dividends and interest	Direct relief	Payments to veterans
1934:						
January	65.5	43.8	11.7	9.3	0.77	0.05
February	65.5	43.5	11.6	9.4	.80	.03
March	66.2	44.0	11.7	9.5	.93	.05
April	65.3	43.2	11.6	9.7	.86	.03
May	65.5	43.2	11.7	9.7	.86	.03
June	65.6	43.0	12.0	9.8	.80	.03
July	65.9	42.9	12.4	9.8	.80	.03
August	66.9	43.3	13.1	9.7	.84	.03
September	66.0	42.6	12.9	9.7	.84	.03
October	66.9	43.1	13.0	9.8	.95	.03
November	67.3	43.6	12.8	9.9	.99	.03
December	67.8	44.2	12.5	9.9	1.13	.03
1935:						
January	69.3	45.4	12.7	9.9	1.24	.03
February	69.6	45.7	12.9	9.8	1.21	.03
March	70.0	45.8	13.0	9.8	1.33	.03
April	70.4	45.9	13.3	9.9	1.35	.03
May	70.0	45.7	13.1	9.9	1.27	.03
June	69.7	45.6	13.0	9.9	1.18	.03
July	69.5	45.6	13.0	9.9	1.07	.03
August	71.9	47.1	13.8	9.9	1.18	.02
September	72.0	47.1	13.7	9.9	1.21	.02
October	72.9	47.5	14.2	10.0	1.30	.02
November	73.6	48.3	14.2	9.9	1.18	.02
December	75.4	50.2	14.2	10.0	1.01	.02
1936:						
January	75.6	50.6	14.0	10.1	.93	.02
February	75.9	50.7	14.1	10.1	.93	.02
March	76.7	51.2	14.4	10.1	.92	02
April	77.0	51.5	14.5	10.2	.84	.00
May	77.6	51.9	14.7	10.2	.77	.00
June	91.2	52.3	15.2	10.7	.75	12.24
1936:						
July	86.7	52.8	15.6	11.3	.75	6.34
August	82.0	53.6	15.2	11.2	.77	1.18
September	81.5	53.6	15.1	11.2	.80	.73
October	82.5	54.4	15.4	11.3	.84	.54
November	83.9	55.5	15.7	11.4	.89	.38
December	85.9	56.9	16.1	11.6	.98	.40
1937:						
January	85.4	56.3	15.9	11.8	1.09	.28
February	86.4	57.1	16.0	12.0	1.10	.21
March	88.3	58.0	16.8	12.1	1.16	.21
April	88.3	58.4	16.5	12.2	1.10	.15
May	88.2	58.8	16.1	12.2	1.02	.11
June	88.8	58.8	16.5	12.2	1.02	.28
July	89.3	58.8	17.1	12.2	1.02	.18
August	90.2	59.5	17.4	12.2	1.05	.14
September	88.7	58.6	16.8	12.2	1.09	.12
October	88.0	58.0	16.7	12.1	1.13	.12
November	86.5	56.7	16.5	12.0	1.22	.09
December	85.8	55.8	16.7	11.9	1.39	.09
1938:						
January	83.5	54.0	16.3	11.7	1.44	.14
February	82.6	53.3	15.9	11.5	1.45	.41
March	82.7	53.1	16.0	11.4	1.5	.79
April	81.4	52.5	15.7	11.1	1.4	.70
May	80.4	52.1	15.4	11.0	1.3	.72
June	80.7	52.1	15.5	11.1	1.3	.75
July	81.3	52.2	15.7	11.3	1.3	.73
August	82.5	53.4	15.6	11.4	1.3	.82
September	83.3	54.1	15.5	11.5	1.3	.79
October	----------	54.4	15.5	11.6	1.3	.69

Source: Compiled by National Income Section, Division of Economic Research, Bureau of Foreign and Domestic Commerce, Department of Commerce. The individual series represent points in the index and not percentages of the total. They are all seasonally adjusted except "Direct Relief" and "Payments to Veterans."

EXHIBIT No. 15

[Chart based on following statistical data appears in text on p. 23]

National income from commodity producing and all other private industries

[In millions of dollars]

Years	Percent commodity producing	Percent all other	Years	Percent commodity producing	Percent all other
1919	50.5	49.5	1928	41.4	58.6
1920	49.5	50.5	1929	42.4	57.6
1921	42.2	57.8	1930	39.6	60.4
1922	41.4	58.6	1931	34.5	65.5
1923	44.4	55.6	1932	28.9	71.1
1924	43.2	56.8	1933	33.7	66.3
1925	43.4	56.6	1934	39.7	60.3
1926	42.8	57.2	1935	40.2	59.8
1927	42.3	57.7			

Source: Kuznets, National Income and Capital Formation 1919–35, published by National Bureau of Economic Research, table 3. National income from Government has been excluded from all the figures. The commodity producing industries are agriculture, construction, manufacturing and mining.

EXHIBIT No. 16

[Chart based on following statistical data appears in text on p. 25]

United States industrial production

[1899=100]

Year	Total industrial production	Per capita industrial production	Year	Total industrial production	Per capita industrial production
1863	11.7	26.0	1901	112.3	108.1
1864	13.5	29.4	1902	122.1	115.1
1865	13.3	28.4	1903	125.4	115.8
1866	17.7	37.0	1904	124.0	112.3
1867	18.2	37.3	1905	146.3	129.9
1868	17.9	36.0	1906	155.7	135.6
1869	21.6	42.6	1907	157.3	134.6
1870	21.2	41.0	1908	132.3	111.1
1871	23.3	43.8	1909	162.4	134.0
1872	28.4	51.8	1910	167.2	135.5
1873	28.1	49.9	1911	160.9	128.5
1874	27.5	47.5	1912	183.6	144.5
1875	26.6	44.8	1913	190.9	148.0
1876	26.6	43.6	1914	175.7	134.2
1877	30.1	48.2	1915	193.8	145.9
1878	31.5	49.1	1916	228.0	169.3
1879	34.3	52.3	1917	231.3	169.3
1880	42.5	63.2	1918	227.9	164.5
1881	43.5	63.1	1919	219.0	156.0
1882	49.2	69.7	1920	231.6	162.6
1883	49.0	67.8	1921	177.9	122.9
1884	49.3	66.6	1922	224.1	152.6
1885	47.6	62.9	1923	273 8	183.6
1886	56.2	72.5	1924	255.5	168.9
1887	58.8	74.2	1925	281.0	182.9
1888	60.4	74.7	1926	291.4	187.0
1889	66.8	80.9	1927	284.3	179.9
1890	71.9	85.3	1928	297.2	185.5
1891	78.0	90.7	1929	319.4	198.6
1892	79.0	90.0	1930	257.0	156.1
1893	70.2	78.4	1931	215.9	130.1
1894	68.8	75.4	1932	170.7	102.2
1895	83.6	89.9	1933	201.8	120.0
1896	77.7	82.0	1934	210.1	124.1
1897	86.7	89.8	1935	236.9	138.9
1898	94.1	95.7	1936	275.6	160.5
1899	100.0	100.0	1937	289.1	167.3
1900	101.6	99.8	1938	[1] 223.8	[1] 128.5

[1] Estimated.

Source: The industrial production figures represent a splice of the physical volume indices for manufacturing, for mining, or for both of McLeod, Persons, Day-Thomas (as kept current by Joy & Kolesinkoff) and the Board of Governors of the Federal Reserve System. The per capita figures were obtained by use of Bureau of Census estimates of the population of continental United States

Exhibit No. 17

[Chart based on following statistical data appears in text on p. 26]

Physical volume of industrial production

[1923–25 average=100]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1919	82	79	76	78	78	83	87	89	87	86	85	86
1920	95	95	93	88	90	91	89	89	86	93	76	72
1921	67	66	64	64	66	65	65	67	68	71	71	70
1922	73	76	80	77	81	85	85	83	88	93	97	100
1923	99	100	103	106	106	106	104	103	102	99	98	97
1924	100	102	100	95	89	85	84	89	94	95	97	101
1925	105	104	103	102	102	102	103	103	101	104	107	109
1926	106	105	106	107	106	108	108	110	111	111	110	107
1927	107	108	110	108	109	107	106	106	104	102	101	102
1928	107	109	108	108	108	108	109	110	113	115	117	118
1929	119	118	118	121	122	125	124	121	121	18	110	103
1930	106	107	103	104	102	98	93	90	90	88	86	84
1931	83	86	87	88	87	83	82	78	76	73	73	74
1932	72	69	67	63	60	59	58	60	66	67	65	66
1933	65	63	59	66	78	91	100	91	84	76	72	75
1934	78	81	84	85	86	83	76	73	71	73	74	85
1935	91	89	88	86	85	86	86	86	89	95	97	104
1936	98	94	93	100	101	103	107	108	109	109	114	121
1937	114	116	118	118	118	114	114	117	111	103	89	84
1938	80	79	79	77	76	77	83	88	90	96	[1] 101	-------

[1] Preliminary.

Source: Compiled by the Board of Governors of Federal Reserve System. Adjusted for seasonal variation.

Exhibit No. 18

[Chart based on following statistical data appears in text on p. 28]

Output of commodities

	Percent durable commodities	Percent nondurable commodities		Percent durable commodities	Percent nondurable commodities
1879	31	69	1914	37	63
1889	35	65	1919	38	62
1899	36	64	1925	41	59
1904	36	64	1929	44	56
1909	37	63	1933	27	73

Source: National Bureau of Economic Research, and Kuznets, Commodity Flow and Capital Formation 1919–1935, published by National Bureau of Economic Research. Percentages are based on dollar figures at current manufacturer's prices. "Durable commodities" includes construction materials and consumer durable goods. Figures for years prior to 1919 were provided by the courtesy of Dr. Wesley C. Mitchell, Director of Research of the National Bureau of Economic Research.

Exhibit No. 19

[Chart based on following statistical data appears in text on p. 29]

Federal Reserve index of manufacturing production

[1923-25 average for total=100]

Year and month	Total index	Points in index		Year and month	Total index	Points in index	
		Non-durable	Durable			Non-durable	Durable
1919				1924			
January	82.2	41.4	40.8	January	99.2	52.9	46.3
February	80.7	39.9	40.4	February	101.4	52.9	48.5
March	77.7	39.6	38.1	March	100.3	52.1	48.2
April	78.9	42.8	36.1	April	95.3	51.4	43.9
May	78.8	45.5	33.3	May	87.9	49.4	38.4
June	84.5	46.7	37.8	June	83.4	48.0	35.4
July	89.2	48.0	41.2	July	82.2	48.1	34.1
August	91.5	47.9	43.6	August	88.6	49.3	39.3
September	87.9	49.3	38.6	September	93.2	52.1	41.1
October	86.5	49.9	36.6	October	94.9	53.6	41.3
November	89.3	50.7	38.6	November	97.3	54.1	43.2
December	88.3	49.8	38.5	December	101.6	55.1	46.6
1920				1925			
January	96.5	51.5	45.0	January	105.3	56.1	49.2
February	96.4	50.4	46.0	February	104.8	56.4	48.4
March	94.9	49.7	45.2	March	104.2	55.8	48.4
April	88.9	48.8	40.1	April	102.7	55.8	46.9
May	91.7	49.1	42.6	May	101.0	54.9	47.0
June	91.6	46.6	45.0	June	101.8	54.7	47.1
July	88.8	44.7	44.1	July	102.8	55.4	47.4
August	89.1	43.4	45.7	August	102.1	55.3	46.8
September	86.7	41.8	44.9	September	102.9	54.8	48.1
October	81.9	39.1	42.8	October	106.4	55.7	50.8
November	73.2	35.0	38.2	November	109.2	56.3	52.9
December	68.0	32.4	35.5	December	112.1	57.9	54.2
1921				1926			
January	64.6	35.0	29.6	January	109.0	57.2	51.8
February	64.1	36.7	27.4	February	107.3	56.6	50.6
March	62.5	38.6	23.9	March	106.5	56.4	50.1
April	63.2	40.4	22.8	April	106.2	55.9	50.3
May	65.3	41.4	23.9	May	106.1	55.3	50.8
June	65.6	43.1	22.5	June	107.9	56.4	51.4
July	66.2	44.0	21.2	July	107.6	56.0	51.6
August	67.9	44.4	23.5	August	110.1	57.5	52.6
September	68.6	45.0	23.6	September	111.3	58.9	52.4
October	72.4	46.0	26.4	October	111.1	59.3	51.8
November	72.6	45.8	26.8	November	108.2	58.7	49.5
December	71.5	45.6	25.9	December	104.4	58.0	46.4
1922				1927			
January	73.4	46.3	27.1	January	105.4	58.2	47.2
February	75.2	46.1	29.1	February	106.7	58.0	48.6
March	78.5	46.7	31.8	March	108.4	59.5	49.0
April	81.7	45.4	36.2	April	107.9	59.6	48.2
May	86.2	48.0	38.2	May	109.5	60.3	49.3
June	90.1	49.8	40.3	June	107.8	61.0	46.8
July	90.8	49.9	40.9	July	107.1	60.5	46.6
August	87.3	51.2	36.1	August	105.6	59.6	46.0
September	89.1	51.3	37.8	September	104.3	59.4	44.9
October	94.3	52.3	42.0	October	102.0	58.6	43.4
November	97.8	54.7	43.1	November	101.1	58.4	42.6
December	100.3	55.1	45.2	December	101.7	58.2	43.4
1923				1928			
January	99.4	53.9	45.6	January	107.6	59.3	48.3
February	100.6	55.3	45.3	February	109.6	60.6	49.0
March	103.3	56.2	47.0	March	109.2	60.3	48.9
April	105.9	56.9	49.0	April	108.9	58.0	50.9
May	105.9	55.6	50.4	May	108.1	58.8	49.3
June	105.7	55.1	50.6	June	109.0	58.9	50.1
July	103.1	52.9	50.2	July	109.6	57.7	51.9
August	101.4	52.1	49.4	August	111.1	59.0	52.1
September	101.1	52.3	48.8	September	114.1	60.0	54.1
October	98.2	51.9	46.3	October	115.4	61.0	54.5
November	96.8	51.5	45.2	November	117.3	62.3	55.0
December	96.7	50.9	45.8	December	119.1	63.1	56.0

Federal Reserve index of manufacturing production—Continued

[1923–25 average for total=100]

Year and month	Total index	Points in index	
		Non-durable	Durable
1929			
January	119.4	63.3	56.1
February	118.0	62.4	55.6
March	119.6	62.8	56.9
April	121.3	63.8	57.4
May	122.7	63.4	59.3
June	126.4	64.1	62.3
July	124.9	62.9	62.0
August	122.4	63.4	59.0
September	120.8	63.2	57.6
October	118.3	63.3	55.0
November	109.8	60.4	49.4
December	100.2	57.7	42.4
1930			
January	104.8	58.6	46.2
February	107.2	57.7	49.5
March	104.4	56.8	47.6
April	104.4	57.0	47.4
May	101.3	55.2	46.1
June	97.3	53.1	44.2
July	91.9	52.4	39.5
August	88.3	50.9	37.4
September	88.6	52.9	35.7
October	86.2	53.0	33.2
November	84.5	52.4	32.1
December	81.9	51.2	30.7
1931			
January	82.9	51.3	31.6
February	85.9	53.6	32.3
March	87.3	54.1	33.2
April	87.7	55.1	32.6
May	87.0	55.4	31.6
June	82.4	53.8	28.6
July	82.0	55.3	26.8
August	78.0	54.3	23.7
September	75.4	54.3	21.1
October	71.3	51.3	20.0
November	71.4	50.3	21.0
December	72.6	51.1	21.5
1932			
January	71.0	51.2	19.8
February	68.1	49.6	18.4
March	64.3	47.9	16.4
April	60.7	44.6	16.1
May	58.5	42.9	15.6
June	58.0	42.8	15.2
July	56.8	43.4	13.4
August	59.2	47.4	11.8
September	65.4	51.9	13.5
October	65.5	51.2	14.4
November	63.4	48.4	15.1
December	64.0	48.0	16.1
1933			
January	63.4	47.1	16.3
February	60.9	46.0	14.9
March	56.1	43.7	12.4
April	65.4	48.9	16.4
May	77.3	56.1	21.3
June	92.5	63.3	29.2
July	101.9	64.3	37.5
August	91.2	57.7	33.6
September	83.3	55.8	27.4
October	75.5	51.0	24.5
November	70.4	50.5	19.8
December	72.2	48.4	23.8

Year and month	Total index	Points in index	
		Non-durable	Durable
1934			
January	76.4	51.7	24.7
February	79.7	52.4	27.2
March	82.0	52.4	29.7
April	84.9	53.2	31.7
May	85.9	52.9	33.0
June	83.1	50.0	33.0
July	74.1	50.6	23.4
August	72.3	51.3	21.0
September	68.9	49.0	19.9
October	72.4	52.8	19.6
November	73.6	52.7	20.9
December	84.9	56.0	28.9
1935			
January	89.7	55.6	34.1
February	88.4	54.1	34.4
March	86.6	53.1	33.4
April	86.3	53.6	32.7
May	84.3	54.2	30.1
June	84.9	53.2	31.7
July	86.5	53.8	32.7
August	89.3	54.0	35.3
September	91.8	55.0	36.8
October	95.3	56.9	38.4
November	96.9	55.8	41.1
December	101.2	57.8	43.4
1936			
January	96.1	57.1	39.0
February	91.6	55.2	36.4
March	92.8	54.9	37.9
April	99.7	56.0	43.7
May	101.1	55.8	45.3
June	104.7	57.6	47.1
July	109.4	60.1	49.3
August	109.6	60.9	48.7
September	110.0	61.0	49.0
October	110.4	60.0	50.4
November	114.5	62.6	51.9
December	121.2	67.4	53.8
1937			
January	114.9	62.9	52.0
February	116.1	63.6	52.4
March	116.7	64.2	52.5
April	118.3	64.0	54.3
May	117.9	62.3	55.6
June	113.9	61.8	52.0
July	114.4	58.1	56.4
August	117.4	59.1	58.4
September	110.3	57.4	52.9
October	100.6	53.8	46.8
November	85.0	50.6	34.4
December	78.8	50.8	27.9
1938			
January	76.1	50.0	26.2
February	75.3	50.2	25.2
March	74.9	50.1	24.8
April	73.3	48.9	24.4
May	73.2	49.8	23.4
June	74.4	51.2	23.3
July	81.6	54.5	27.1
August	85.4	57.7	29.6
September	89.4	57.8	31.9
October	94.3	56.2	38.6
November			
December			

Source: Board of Governors of Federal Reserve System. Adjusted for seasonal variation; data on durable and nondurable are the points which each type of output represents in the total index.

Exhibit No. 20

[Chart based on following statistical data appears in text on p. 30]

United States Agricultural Production

[1923-25 average=100]

TOTAL

1901	59. 7	1920	96. 4
1902	72. 3	1921	87. 0
1903	68. 1	1922	95. 3
1904	74. 7	1923	98. 5
1905	75. 2	1924	100. 4
1906	80. 1	1925	101. 1
1907	72. 3	1926	105. 7
1908	76. 4	1927	102. 8
1909	75. 8	1928	108. 2
1910	78. 2	1929	104. 8
1911	76. 4	1930	104. 7
1912	87. 2	1931	110. 7
1913	77. 7	1932	103. 4
1914	87. 0	1933	100. 6
1915	94. 0	1934	97. 1
1916	81. 5	1935	96. 0
1917	88. 4	1936	98. 4
1918	87. 0	1937	[1] 112. 0
1919	90. 9		

PER CAPITA

1901	86. 9	1920	102. 4
1902	103. 1	1921	91. 0
1903	95. 2	1922	98. 2
1904	102. 4	1923	100. 0
1905	101. 1	1924	100. 4
1906	105. 6	1925	99. 6
1907	93. 6	1926	102. 7
1908	97. 1	1927	98. 5
1909	94. 6	1928	102. 2
1910	95. 9	1929	97. 6
1911	92. 3	1930	96. 3
1912	103. 8	1931	101. 0
1913	91. 1	1932	93. 7
1914	100. 6	1933	90. 5
1915	107. 1	1934	86. 8
1916	91. 6	1935	85. 2
1917	97. 9	1936	86. 7
1918	95. 1	1937	98. 1
1919	98. 0		

[1] Preliminary.

Source: The index was spliced under the direction of the Central Statistical Board from the indixes prepared by F. C. Mills for 1901-21 and published in his Economic Tendencies in the United States, and by the Bureau of Agricultural Economics for 1922 to date, and published annually in Agricultural Statistics. Products of the farm fed to livestock, used for seed, or in other forms of production are not included. Bureau of Census estimates of population of continental United States were used to secure the per capita figures.

EXHIBIT No. 21

[Chart based on following statistical data appears in text on p. 32]

Value of all construction

Year	Public works	Private nonresidential	Residential	Total
1919	$1,422,000,000	$2,762,000,000	$1,732,000,000	$5,916,000,000
1920	1,714,000,000	3,129,000,000	1,439,000,000	6,336,000,000
1921	1,678,000,000	2,186,000,000	2,241,000,000	6,105,000,000
1922	2,076,000,000	2,783,000,000	3,524,000,000	8,383,000,000
1923	1,921,000,000	3,300,000,000	4,422,000,000	9,643,000,000
1924	2,264,000,000	3,513,000,000	4,713,000,000	10,490,000,000
1925	2,546,000,000	4,062,000,000	5,202,000,000	11,810,000,000
1926	2,470,000,000	4,366,000,000	4,757,000,000	11,593,000,000
1927	2,786,000,000	4,477,000,000	4,524,000,000	11,787,000,000
1928	2,932,000,000	4,385,000,000	4,255,000,000	11,572,000,000
1929	2,928,000,000	4,581,000,000	3,010,000,000	10,519,000,000
1930	3,023,000,000	3,800,000,000	1,805,000,000	8,628,000,000
1931	2,615,000,000	2,232,000,000	1,262,000,000	6,109,000,000
1932	1,955,000,000	1,097,000,000	444,000,000	3,496,000,000
1933	1,902,000,000	936,000,000	392,000,000	3,230,000,000
1934	2,726,000,000	1,180,000,000	458,000,000	4,364,000,000
1935	2,684,000,000	1,461,000,000	923,000,000	5,068,000,000
1936	[1] 3,556,000,000	[1] 2,523,000,000	[1] 1,807,000,000	[1] 7,886,000,000
1937	[1] 3,072,000,000	[1] 3,805,000,000	[1] 1,885,000,000	[1] 8,762,000,000

[1] Estimated.

Source: Kuznets National Income and Capital Formation 1919–35, published by National Bureau of Economic Research, table 10. Data for 1936 and 1937 estimated from contracts awarded figures published by F. W. Dodge Corporation, except for residential, which is derived from the percentage change in the number of residential units provided in nonfarm areas.

EXHIBIT No. 22

[Chart based on following statistical data appears in text on p. 33]

Residential units provided for in new nonfarm construction

Year	1-family	2-family	Apartments	Total
1920	202,000	24,000	21,000	247,000
1921	316,000	70,000	63,000	449,000
1922	437,000	146,000	133,000	716,000
1923	513,000	175,000	183,000	871,000
1924	534,000	173,000	186,000	893,000
1925	572,000	157,000	208,000	937,000
1926	491,000	117,000	241,000	849,000
1927	454,000	99,000	257,000	810,000
1928	436,000	78,000	239,000	753,000
1929	316,000	51,000	142,000	509,000
1930	185,000	28,000	73,000	286,000
1931	147,000	21,000	44,000	212,000
1932	61,000	6,000	7,000	74,000
1933	39,000	4,000	11,000	54,000
1934	42,000	3,000	10,000	55,000
1935	110,000	6,000	28,000	144,000
1936	211,000	12,000	59,000	282,000
1937 [1]	[1] 233,000	[1] 14,000	[1] 48,000	[1] 294,000

[1] Estimated.

Residential units provided for in new nonfarm construction—Continued

BY REGIONS

Year	Northeast	North Central	South	West
1920	55,000	70,000	78,000	44,000
1921	121,000	109,000	132,000	87,000
1922	224,000	186,000	178,000	128,000
1923	278,000	244,000	194,000	155,000
1924	302,000	244,000	207,000	140,000
1925	315,000	252,000	228,000	142,000
1926	300,000	231,000	196,000	122,000
1927	301,000	213,000	185,000	111,000
1928	263,000	196,000	188,000	106,000
1929	156,000	140,000	131,000	81,000
1930	99,000	53,000	78,000	56,000
1931	81,000	34,000	59,000	38,000
1932	24,000	11,000	24,000	15,000
1933	18,000	7,000	18,000	11,000
1934	22,000	8,000	17,000	8,000
1935	39,000	26,000	58,000	21,000
1936	77,000	50,000	110,000	45,000

[1] Estimated.

Source: Wickens & Foster, Non-farm Residential Construction, 1920-36, Bulletin 65 of the National Bureau of Economic Research, Sept. 13, 1936, table 3.

Exhibit No. 23

[Chart based on following statistical data appears in text on p. 34]

Production and capacity of Portland cement mills (barrels)

Year	Production	Practical capacity	Year	Production	Practical capacity
1910	76,600,000	95,500,000	1924	149,400,000	143,400,000
1911	78,500,000	102,500,000	1925	161,700,000	158,200,000
1912	82,400,000	106,300,000	1926	164,500,000	177,200,000
1913	92,100,000	108,900,000	1927	173,200,000	186,400,000
1914	88,200,000	111,100,000	1928	176,300,000	196,000,000
1915	85,900,000	113,100,000	1929	170,600,000	210,800,000
1916	91,500,000	115,500,000	1930	161,200,000	215,100,000
1917	92,800,000	118,200,000	1931	125,400,000	221,000,000
1918	71,100,000	120,100,000	1932	76,700,000	225,100,000
1919	80,800,000	119,000,000	1933	63,500,000	224,200,000
1920	100,000,000	121,500,000	1934	77,700,000	223,300,000
1921	98,800,000	119,100,000	1935	76,700,000	223,500,000
1922	114,800,000	121,300,000	1936	112,700,000	221,000,000
1923	137,500,000	131,900,000	1937	116,200,000	213,300,000

Source: Production data from reports of the Bureau of Mines, Department of the Interior; capacity figures are based on data furnished by the Bureau of Mins with allowance for a seasonal discount of 17 percent. Figures compiled by the Division of Economic Research of the Bureau of Foreign and Domestic Commerce.

EXHIBIT No. 24

[Chart based on following statistical data appears in text on p. 35]

Pig-iron production and capacity of blast furnaces (gross tons)

Year	Production	Practical capacity	Year	Production	Practical capacity
1910	26, 900, 000	32, 800, 000	1924	31, 200, 000	44, 300, 000
1911	23, 400, 000	34, 400, 000	1925	36, 500, 000	45, 000, 000
1912	29, 400, 000	35, 600, 000	1926	39, 200, 000	46, 200, 000
1913	30, 600, 000	35, 600, 000	1927	38, 400, 000	44, 600, 000
1914	23, 100, 000	36, 600, 000	1928	38, 000, 000	45, 200, 000
1915	29, 600, 000	37, 200, 000	1929	42, 500, 000	45, 600, 000
1916	39, 100, 000	37, 900, 000	1930	31, 700, 000	46, 500, 000
1917	38, 200, 000	39, 700, 000	1931	18, 400, 000	45, 700, 000
1918	38, 700, 000	40, 700, 000	1932	8, 800, 000	44, 600, 000
1919	30, 700, 000	41, 600, 000	1933	13, 300, 000	45, 200, 000
1920	36, 600, 000	42, 800, 000	1934	16, 100, 000	45, 000, 000
1921	16, 600, 000	43, 500, 000	1935	21, 300, 000	44, 100, 000
1922	27, 000, 000	43, 600, 000	1936	31, 000, 000	43, 900, 000
1923	40, 100, 000	43, 700, 000	1937	37, 000, 000	44, 800, 000

Source: Data for production and theoretical capacity of blast furnaces were obtained from annual reports of the American Iron and Steel Institute and compiled by the Division of Economic Research of the Bureau of Foreign and Domestic Commerce of the Department of Commerce. The practical capacity is computed by deflating the theoretical capacity by 11.4 percent in order to reflect practically attainable standards. The deflation factor is the result of a survey made about 1925 by a special committee designated by the American Iron and Steel Institute. The following statement was made by the committee: "Individual plants or individual units of plants all have a record or maximum production for some one month which cannot be maintained throughout a year. Accidents, interruptions for repairs, holidays, and various other causes and conditions reduce the yearly output. The figure for practical capacity is the result of the judgment of those making the survey, after weighing all information given by the producers in answering the questionnaires and having regard to past records of production as reported to the Institute." (See Annual Report of the American Iron and Steel Institute, 1925, p. VI.)

Capacity production figures exclude the capacity of furnaces which have long been idle. Figures plotted for each year on capacity are for the month of December.

EXHIBIT No. 25

[Chart based on following statistical data appears in text on p. 36]

Annual production of automobiles

	Number		*Number*
1919	1, 933, 600	1929	5, 358, 420
1920	2, 227, 300	1930	3, 355, 991
1921	1, 596, 800	1931	2, 389, 730
1922	2, 544, 176	1932	1, 370, 728
1923	4, 034, 012	1933	1, 920, 057
1924	3, 602, 540	1934	2, 753, 111
1925	4, 265, 830	1935	3, 946, 934
1926	4, 300, 934	1936	4, 454, 115
1927	3, 401, 326	1937	4, 808, 974
1928	4, 358, 759		

Source: Bureau of the Census. Includes passenger cars and commercial vehicles.

EXHIBIT No. 26

[Chart based on following statistical data appears in text on p. 37]

Annual production of bituminous coal

	Thousands of net tons		*Thousands of net tons*
1919	465, 860	1929	534, 989
1920	568, 667	1930	467, 526
1921	415, 922	1931	382, 089
1922	422, 268	1932	309, 710
1923	564, 565	1933	333, 631
1924	483, 687	1934	359, 368
1925	520. 053	1935	372, 373
1926	573, 367	1936	439, 088
1927	517, 763	1937	442, 455
1928	500, 745		

Source: Bureau of Mines.

EXHIBIT No. 27

[Chart based on following statistical data appears in text on p. 38]

Annual production of lumber

	Millions of board feet		*Millions of board feet*
1919	34, 503, 000, 000	1929	36, 886, 000, 000
1920	35, 002, 000, 000	1930	26, 051, 000, 000
1921	29, 001, 000, 000	1931	16, 523, 000, 000
1922	35, 252, 000, 000	1932	10, 151, 000, 000
1923	41, 000, 000, 000	1933	13, 961, 000, 000
1924	39, 501, 000, 000	1934	15, 494, 000, 000
1925	41, 000, 000, 000	1935	19, 539, 000, 000
1926	39, 751, 000, 000	1936	24, 355, 000, 000
1927	37, 250, 000, 000	1937	[1] 25, 600, 000, 000
1928	36, 750, 000, 000		

[1] Estimated.

Source: 1919–28, Board of Governors of the Federal Reserve System. 1929–37, Bureau of the Census.

EXHIBIT No. 28

[Chart based on following statistical data appears in text on p. 38]

Annual production of shoes

	Thousands of pairs		*Thousands*
1919	331, 225, 000	1929	361, 402, 000
1920	[1] 315, 000, 000	1930	304, 168, 000
1921	286, 771, 000	1931	316, 239, 000
1922	323, 877, 000	1932	313, 291, 000
1923	351, 114, 000	1933	350, 380, 000
1924	313, 229, 000	1934	357, 121, 000
1925	323, 552, 000	1935	383, 761, 000
1926	324, 513. 000	1936	415, 227, 000
1927	313, 608, 000	1937	411, 969, 000
1928	344, 352, 000		

[1] Estimate.

Source: Bureau of the Census. Includes boots, shoes, and slippers other than rubber.

EXHIBIT No. 29

[Chart based on following statistical data appears in text on p. 39]

Textile fiber consumption by United States manufacturers, 1870–1937

Year	Total rayon fiber consumption [1]	Cotton [2]	Net raw-silk imports [3]	Wool consumption [4]
	Pounds	*Bales*	*Pounds*	*Pounds*
1870		800, 000	700, 000	214, 400, 000
1871		1, 000, 000	1, 300, 000	245, 400, 000
1872		1, 100, 000	1, 200, 000	262, 100, 000
1873		1, 100, 000	800, 000	209, 900, 000
1874		1, 200, 000	800, 000	217, 800, 000
1875		1, 100, 000	1, 300, 000	229, 900, 000
1876		1, 300, 000	1, 200, 000	229, 000, 000
1877		1, 300, 000	1, 000, 000	247, 000, 000
1878		1, 500, 000	1, 600, 000	238, 500, 000
1879		1, 500, 000	2, 300, 000	278, 200, 000
1880		1, 500, 000	2, 600, 000	340, 300, 000
1881		1, 900, 000	2, 500, 000	292, 500, 000
1882		1, 800, 000	3, 100, 000	338, 700, 000
1883		2, 000, 000	3, 300, 000	364, 000, 000
1884		1, 800, 000	3, 400, 000	367, 400, 000
1885		1, 700, 000	3, 900, 000	403, 500, 000
1886		2, 100, 000	4, 800, 000	422, 900, 000
1887		2, 100, 000	4, 800, 000	355, 100, 000
1888		2, 200, 000	5, 400, 000	374, 100, 000
1889		2, 300, 000	5, 800, 000	389, 500, 000
1890		2, 500, 000	4, 600, 000	381, 700, 000
1891		2, 600, 000	7, 100, 000	421, 500, 000
1892		2, 800, 000	7, 800, 000	458, 200, 000

See footnotes at end of table.

Textile fiber consumption by United States manufacturers, 1870–1937—Continued

Year	Total rayon fiber consumption	Cotton	Net raw-silk imports	Wool consumption
	Pounds	*Bales*	*Pounds*	*Pounds*
1893		2,400,000	4,400,000	453,300,000
1894		2,300,000	7,800,000	436,600,000
1895		3,000,000	9,100,000	534,600,000
1896		2,500,000	4,900,000	417,300,000
1897		2,800,000	10,000,000	612,800,000
1898		3,500,000	8,400,000	361,900,000
1899		3,700,000	11,700,000	361,100,000
1900		3,700,000	8,100,000	425,100,000
1901		3,600,000	12,200,000	424,000,000
1902		4,100,000	13,600,000	489,000,000
1903		4,200,000	11,500,000	457,400,000
1904		4,000,000	16,400,000	476,000,000
1905		4,300,000	15,400,000	538,000,000
1905		4,900,000	16,700,000	491,000,000
1907		5,000,000	15,600,000	483,400,000
1908		4,500,000	18,600,000	446,500,000
1909		5,100,000	22,100,000	639,100,000
1910		4,600,000	21,500,000	492,400,000
1911	2,100,000	4,500,000	20,700,000	471,000,000
1912	2,900,000	5,100,000	24,700,000	540,300,000
1913	4,000,000	5,500,000	27,800,000	443,800,000
1914	5,200,000	5,600,000	25,500,000	540,000,000
1915	6,600,000	5,600,000	30,800,000	678,100,000
1916	6,600,000	6,400,000	32,000,000	725,100,000
1917	6,800,000	6,800,000	36,000,000	694,900,000
1918	6,000,000	6,600,000	32,300,000	715,000,000
1919	9,300,000	5,800,000	44,300,000	627,600,000
1920	8,700,000	6,400,000	29,300,000	850,200,000
1921	19,300,000	4,500,000	44,900,000	658,100,000
1922	24,700,000	5,900,000	50,100,000	770,500,000
1923	32,600,000	6,700,000	49,100,000	755,300,000
1924	42,200,000	5,700,000	50,500,000	644,700,000
1925	58,300,000	6,200,000	63,100,000	659,700,000
1926	60,600,000	6,500,000	65,600,000	644,600,000
1927	100,100,000	7,200,000	72,700,000	681,800,000
1928	100,500,000	6,800,000	74,700,000	650,000,000
1929	133,400,000	7,100,000	85,900,000	712,100,000
1930	118,800,000	6,100,000	72,300,000	533,500,000
1931	159,000,000	5,300,000	82,000,000	648,400,000
1932	155,300,000	4,900,000	71,300,000	498,400,000
1933	217,300,000	6,100,000	64,600,000	673,000,000
1934	197,200,000	5,700,000	53,500,000	470,100,000
1935	258,700,000	5,400,000	64,200,000	855,000,000
1936	322,600,000	6,400,000	58,100,000	769,800,000
1937	301,500,000	8,000,000	55,200,000	675,100,000
1938	[4] 275,000,000	5,700,000	48,700,000	[5] 498,200,000

Compiled in the Division of Economic Research of the Bureau of Foreign and Domestic Commerce of the Department of Commerce from the following sources.

[1] Rayon Organon, Special Supplement, Textile Economics Bureau, Inc., January 1938, p. 16.

Domestic consumption of rayon fiber includes rayon filament yarn and rayon staple fiber. Domestic consumption is calculated as the sum of domestic shipments by American producers plus yarn imports for consumption.

[2] Cotton Production and Distribution, Bureau of the Census, U. S. Department of Commerce, Bulletin 167, p. 58, for the years 1870 to 1904, inclusive; ibid., Bulletin 174, p. 42, for the years, 1905 to 1937, inclusive. The 1938 figure is unpublished.

Mill consumption in the United States of all growths of cotton. Statistics from 1870 to 1904, inclusive, are in bales of 500 pounds and include linters; statistics from 1905 to 1938, inclusive, are in running bales and exclude linters. As published, the annual figures are for cotton years beginning in September. They are presented here as of the year the cotton year ends, i. e., September 1870 to August 1871 is given as 1871. The Bureau of the Census has collected these figures since 1905. They obtained figures from publication of the Department of Agriculture for the years 1870 to 1895, and from reports of Latham Alexander & Co., for the years 1896 to 1904.

[3] Foreign Commerce and Navigation of the United States, Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce, 1870 to 1937.

Net raw-silk imports are the difference between general imports and foreign exports. Figures for general imports have not been published since 1933 and "imports for consumption" have been used for this series since that year. Waste, cocoons, silk worms, and eggs of silkworms are excluded. Published figures prior to 1918 are for fiscal years. The entire series presented here is on a calendar year basis. Although these are not manufacturers' consumption figures, they may be used as such because of the immediacy with which imports are delivered to manufacturers and the relatively small stocks of silk usually carried.

[4] Agriculture Yearbook, U. S. Department of Agriculture, 1923, p. 1001, for the years 1870 to 1917, inclusive. Raw Wool Consumption Report, Bureau of the Census, U. S. Department of Commerce, annual reports, for the years 1918 to 1936, inclusive. The 1937 figure is preliminary and unpublished.

The series from 1870 to 1917, inclusive, is "apparent wool consumption" and is the sum of domestic production and the excess of imports over all exports. The figures are not on any one comparable base but are roughly comparable to "greasy shorn," although some fleece and scoured wool are included and the grease wool varies in the amount of grease by years and by origin of the wool. The figures, therefore, although not strictly comparable, represent the general trend from 1870 to 1917, inclusive. Mill-consumption figures the years 1918 to 1937, inclusive, are given on a greasy shorn basis in order that they may be more nearly comparable with the earlier series.

[5] Estimated on basis of first 10 months of the year.

Exhibit No. 30

[Chart based on following statistical data appears in text on p. 40]

Cigarette production

	Millions of pounds		Millions of pounds
1919	53, 112	1929	119, 028
1920	44, 616	1930	119, 616
1921	50. 856	1931	113, 448
1922	53, 556	1932	103, 584
1923	64, 440	1933	111, 756
1924	71, 004	1934	125, 604
1925	79, 956	1935	134, 604
1926	89, 436	1936	153, 187
1927	97, 176	1937	162, 626
1928	105, 912	1938	[1] 164, 184

[1] Estimate based on data for first 8 months.

Source: Tax-paid withdrawals as reported to the Bureau of Internal Revenue and published in the Survey of Current Business by the Department of Commerce.

Exhibit No. 31

[Chart based on following statistical data appears in text on p. 41]

Department store sales

[1923–25 average=100]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1919	66	71	72	72	69	76	80	80	83	81	86	86
1920	90	89	95	91	96	96	98	97	95	92	96	90
1921	92	92	90	89	87	87	87	84	82	86	83	84
1922	83	83	85	86	87	86	86	88	91	93	92	93
1923	91	93	95	100	98	101	98	101	100	101	100	99
1924	99	101	99	98	97	100	96	96	101	96	100	99
1925	99	103	102	103	102	102	100	101	101	111	104	104
1926	106	105	103	103	109	105	106	108	106	109	106	107
1927	107	108	107	105	105	106	105	111	104	107	108	106
1928	108	106	107	106	107	107	110	107	112	108	108	111
1929	110	110	113	109	109	113	109	111	113	111	108	110
1930	107	108	107	105	105	103	100	102	99	101	99	96
1931	99	99	100	100	97	95	94	89	85	85	86	83
1932	80	79	73	74	72	68	65	64	67	68	64	62
1933	62	62	58	64	66	67	69	74	68	70	67	69
1934	73	73	76	76	75	73	73	76	74	74	75	77
1935	76	77	79	75	74	79	80	77	81	78	82	83
1936	81	83	84	84	87	87	90	87	88	90	94	92
1937	93	95	93	93	93	93	92	93	94	93	91	89
1938	90	88	86	83	78	82	83	83	86	84	------	------

Source: Board of Governors of Federal Reserve System. It is an index of dollar sales, adjusted for seasonal variation.

EXHIBIT No. 32

[Chart based on following statistical data appears in text on p. 42]

Index of freight-car loadings

[1923–25 average=100]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1919	81	80	76	80	81	81	92	89	93	89	83	90
1920	91	90	93	83	89	90	95	95	93	91	91	90
1921	77	77	73	76	78	77	77	79	81	85	76	75
1922	77	84	87	75	79	82	81	82	89	90	95	98
1923	98	97	100	105	102	102	101	101	98	98	99	96
1924	98	103	98	95	93	92	92	95	100	102	101	101
1925	103	102	99	102	101	102	103	106	102	101	105	108
1926	103	104	104	105	107	108	109	106	107	109	110	109
1927	107	108	108	106	105	104	103	104	104	101	99	98
1928	103	102	103	101	104	101	104	105	106	107	109	107
1929	108	109	106	108	107	109	108	110	108	105	102	101
1930	100	100	96	97	95	94	91	91	88	86	84	82
1931	81	79	79	79	78	76	75	72	68	68	67	65
1932	62	60	58	57	52	49	49	51	54	57	56	54
1933	53	52	48	53	55	61	66	64	60	59	60	60
1934	62	65	65	63	64	64	62	61	60	59	59	60
1935	63	66	65	62	61	64	59	63	64	68	68	68
1936	70	71	66	71	72	73	76	76	75	77	82	83
1937	80	82	83	84	80	78	80	79	78	76	71	67
1938	65	62	60	57	58	58	61	62	64	------	------	------

Source: Board of Governors of Federal Reserve System. Seasonally adjusted index of daily average volume of loadings, based on data collected by the Association of American Railroads.

EXHIBIT No. 33

[Chart based on following statistical data appears in text on p. 44]

Nonagricultural employment in the United States

[Thousands of persons]

TOTAL

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
January	34,876	34,630	31,456	28,608	26,289	28,762	30,302	31,610	33,596	32,177
February	35,925	34,342	31,071	28,420	26,228	29,247	30,598	31,628	33,923	32,017
March	35,355	34,281	31,213	28,239	25,946	29,834	30,888	32,064	34,411	31,976
April	35,857	34,534	31,512	28,027	26,318	30,259	31,272	32,619	34,683	32,106
May	36,254	34,659	31,545	27,725	26,723	30,686	31,348	32,994	34,993	31,834
June	36,549	34,491	31,434	27,428	27,397	30,786	31,419	33,312	35,062	31,781
July	36,690	34,079	31,069	27,055	27,883	30,541	31,404	33,511	35,034	31,756
August	36,989	33,788	30,826	27,063	28,655	30,563	31,677	33,698	35,039	31,960
September	37,049	33,716	30,720	27,409	29,278	30,404	32,011	34,032	35,106	32,438
October	37,026	33,462	30,397	27,628	29,531	30,726	32,335	34,308	35,020	32,693
November	36,406	32,834	29,760	27,332	29,326	30,583	32,218	34,212	34,233	--------
December	35,620	32,282	29,438	27,000	29,143	30,714	32,316	34,423	33,589	--------
Average	36,141	33,925	30,870	27,661	27,726	30,259	31,482	33,201	34,557	--------

Nonagricultural employment in the United States—Continued

INDUSTRY

(Manufacturing, mining, construction, transportation, and public utilities)

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
January	15,138	14,874	12,538	10,985	9,672	11,072	11,843	12,485	13,832	12,436
February	15,359	14,779	12,520	10,937	9,706	11,430	12,075	12,509	14,071	12,346
March	15,564	14,763	12,596	10,803	9,499	11,798	12,242	12,756	14,318	12,286
April	15,977	14,926	12,806	10,635	9,670	12,073	12,417	13,105	14,508	12,162
May	16,281	15,004	12,879	10,443	9,994	12,355	12,488	13,394	14,745	12,061
June	16,519	14,916	12,788	10,242	10,500	12,400	12,488	13,616	14,742	11,984
July	16,682	14,681	12,692	10,051	10,945	12,203	12,472	13,784	14,786	12,011
August	16,900	14,536	12,630	10,163	11,428	12,242	12,717	13,982	14,862	12,283
September	16,886	14,426	12,514	10,457	11,760	11,901	12,822	14,139	14,789	[1] 12,583
October	16,825	14,226	12,225	10,612	11,837	12,137	13,017	14,323	14,705	[1] 12,802
November	16,238	13,687	11,727	10,414	11,606	11,954	12,880	14,256	14,045	------
December	15,456	13,109	11,380	10,051	11,277	11,883	12,741	14,205	13,232	------
Average	16,153	14,494	12,441	10,483	10,658	11,954	12,517	13,546	14,386	------

DISTRIBUTION AND SERVICE

(Trade, service, finance, and government)

January	12,611	12,640	12,020	10,994	10,254	11,116	11,596	12,046	12,548	12,426
February	12,536	12,488	11,658	10,876	10,181	11,216	11,649	12,031	12,584	12,353
March	12,636	12,430	11,733	10,841	10,111	11,408	11,736	12,192	12,782	12,375
April	12,678	12,488	11,822	10,805	10,304	11,522	11,900	12,363	12,809	12,605
May	12,736	12,516	11,789	10,707	10,337	11,621	11,861	12,397	12,860	12,420
June	12,777	12,447	11,779	10,628	10,465	11,634	11,912	12,453	12,909	12,436
July	12,755	12,285	11,534	10,477	10,470	11,557	11,892	12,457	12,836	12,393
August	12,849	12,179	11,373	10,397	10,730	11,515	11,893	12,421	12,755	12,325
September	12,940	12,244	11,409	10,471	11,004	11,678	12,107	12,590	12,905	[1] 12,508
October	13,005	12,231	11,416	10,547	11,153	11,732	12,222	12,682	12,927	[1] 12,542
November	13,004	12,187	11,316	10,485	11,174	11,760	12,255	12,724	12,840	------
December	13,016	12,249	11,382	10,543	11,313	11,961	12,498	12,994	13,032	------
Average	12,794	12,365	11,603	10,648	10,625	11,560	11,960	12,446	12,816	------

PROPRIETORS, SELF-EMPLOYED AND CASUAL WORKERS

January	7,127	7,116	6,893	6,629	6,363	6,574	6,863	7,079	7,216	7,315
February	7,130	7,075	6,893	6,607	6,341	6,601	6,874	7,088	7,268	7,315
March	7,155	7,088	6,884	6,595	6,336	6,628	6,910	7,116	7,311	7,313
April	7,202	7,120	6,884	6,587	6,344	6,664	6,955	7,151	7,366	7,339
May	7,237	7,139	6,877	6,575	6,392	6,710	6,999	7,203	7,388	7,353
June	7,253	7,128	6,867	6,558	6,432	6,752	7,019	7,243	7,411	7,361
July	7,253	7,113	6,843	6,527	6,468	6,781	7,040	7,270	7,412	7,352
August	7,240	7,073	6,823	6,503	6,497	6,806	7,067	7,295	7,422	7,352
September	7,223	7,046	6,797	6,481	6,514	6,825	7,082	7,303	7,412	[1] 7,347
October	7,196	7,005	6,756	6,469	6,541	6,857	7,096	7,303	7,388	[1] 7,349
November	7,164	6,960	6,717	6,433	6,546	6,869	7,083	7,232	7,348	------
December	7,139	6,924	6,676	6,406	6,553	6,870	7,077	7,224	7,325	------
Average	7,194	7,066	6,826	6,531	6,444	6,745	7,006	7,209	7,356	------

[1] Preliminary.

Source: Bureau of Labor Statistics. Estimated from reports to the Bureau of the Census, the Interstate Commerce Commission, the Bureau of Labor Statistics, and a wide variety of other governmental and nongovernmental agencies.

EXHIBIT No. 34

[Chart based on following statistical data appears in text on p. 45]

Employment and pay rolls in manufacturing durable-goods group

[1923-25 average=100]

	Employment	Pay rolls		Employment	Pay rolls
1923			**1928**		
January	97.7	89.3	January	90.3	90.1
February	101.0	94.9	February	92.8	98.0
March	103.6	100.7	March	94.9	101.0
April	105.6	104.0	April	96.1	101.4
May	106.6	109.0	May	97.7	103.9
June	107.4	109.2	June	98.2	103.0
July	106.1	103.5	July	97.4	99.0
August	105.8	105.0	August	99.9	104.5
September	105.4	104.5	September	101.3	104.8
October	104.6	107.9	October	101.6	109.4
November	103.7	106.7	November	101.0	106.1
December	101.6	103.8	December	100.6	105.8
1924			**1929**		
January	100.6	98.3	January	101.0	102.2
February	102.6	106.6	February	103.9	111.5
March	103.8	107.8	March	105.9	114.6
April	103.4	106.7	April	108.0	117.5
May	99.3	100.9	May	109.3	118.7
June	94.8	92.7	June	109.3	115.8
July	90.7	83.6	July	109.2	109.8
August	90.6	86.9	August	110.3	115.4
September	91.4	88.7	September	109.8	114.6
October	92.8	92.0	October	107.7	113.4
November	92.5	90.8	November	102.5	102.9
December	94.3	95.4	December	97.6	97.4
1925			**1930**		
January	95.3	92.7	January	94.8	91.0
February	97.3	99.9	February	95.3	96.1
March	98.7	102.2	March	95.1	96.8
April	99.9	101.6	April	94.9	97.0
May	100.1	103.3	May	93.8	94.8
June	99.2	100.2	June	90.8	90.3
July	97.9	96.3	July	86.3	79.1
August	98.7	98.5	August	83.7	76.0
September	100.1	98.1	September	82.3	75.4
October	102.0	105.8	October	80.9	74.4
November	102.3	106.1	November	78.1	68.6
December	102.2	106.6	December	75.7	66.1
1926			**1931**		
January	101.3	99.9	January	72.3	59.1
February	102.9	106.4	February	72.4	63.7
March	103.9	108.6	March	72.5	65.2
April	104.3	107.8	April	72.6	64.6
May	103.7	106.5	May	71.9	63.7
June	103.2	106.1	June	69.8	58.7
July	101.8	100.2	July	67.1	53.6
August	103.0	104.7	August	65.8	52.2
September	103.5	104.6	September	65.0	48.8
October	103.0	108.2	October	62.2	47.7
November	100.8	103.9	November	60.6	45.3
December	98.6	101.1	December	60.2	44.9
1927			**1932**		
January	96.0	93.6	January	58.1	40.7
February	97.9	101.8	February	58.8	41.8
March	99.1	104.8	March	57.5	39.5
April	99.3	104.6	April	55.5	36.9
May	99.2	104.7	May	54.0	35.8
June	98.2	101.2	June	52.5	32.6
July	95.8	94.8	July	50.1	29.4
August	96.4	98.5	August	48.9	27.9
September	95.9	96.1	September	49.2	27.9
October	95.2	97.7	October	49.6	29.8
November	92.9	93.7	November	50.0	29.5
December	91.5	94.7	December	49.6	29.0

Employment and pay rolls in manufacturing durable-goods group—Continued

	Employment	Pay rolls		Employment	Pay rolls
1933			1936		
January	47.7	27.5	January	84.6	69.9
February	48.6	27.8	February	84.4	68.9
March	46.8	25.8	March	86.0	74.2
April	47.9	27.5	April	88.5	79.3
May	50.9	32.0	May	90.6	82.1
June	55.3	36.4	June	91.4	82.6
July	59.8	39.6	July	91.7	79.7
August	65.0	45.2	August	91.9	80.8
September	68.3	46.0	September	93.0	81.0
October	68.0	46.3	October	96.7	89.6
November	66.1	43.6	November	98.7	93.4
December	65.8	43.8	December	100.5	98.4
1934			1937		
January	65.2	43.2	January	97.9	91.2
February	69.6	49.7	February	101.2	97.9
March	73.8	55.0	March	104.8	106.1
April	77.0	59.8	April	107.4	113.3
May	78.8	61.2	May	109.0	114.6
June	78.1	59.5	June	107.5	111.1
July	75.7	51.7	July	107.8	107.3
August	73.6	52.1	August	107.0	110.5
September	71.5	47.6	September	105.3	105.8
October	70.2	48.7	October	106.6	108.2
November	69.8	48.7	November	100.8	94.8
December	72.3	53.3	December	91.7	81.0
1935			1938		
January	74.7	55.8	January	81.7	67.1
February	78.6	62.4	February	80.1	67.2
March	80.6	64.4	March	79.3	67.4
April	81.7	65.7	April	77.0	65.6
May	81.2	63.5	May	75.0	64.2
June	78.9	60.9	June	72.4	61.7
July	79.0	59.2	July	70.3	58.6
August	80.6	63.5	August	71.8	63.5
September	81.5	65.6	September	75.3	68.7
October	85.5	71.4	October	79.0	75.0
November	86.7	72.9			
December	86.3	74.5			

Source: Bureau of Labor Statistics. The indexes are not adjusted for seasonal variation.

EXHIBIT No. 35

[Chart based on following statistical data appears in text on p. 46]

Employment and pay rolls, all manufacturing industries

[1923–25 average=100]

	Employment	Pay rolls		Employment	Pay rolls
1923			1924		
January	100.2	93.9	January	100.1	98.9
February	102.4	97.8	February	101.7	104.5
March	104.6	102.6	March	101.9	104.5
April	105.1	103.8	April	100.1	102.0
May	105.2	107.3	May	96.8	97.6
June	105.7	107.2	June	93.8	91.9
July	104.6	102.9	July	90.6	85.3
August	104.8	103.1	August	92.0	89.1
September	105.3	103.8	September	94.2	92.4
October	104.0	105.9	October	95.0	94.5
November	102.8	103.9	November	94.5	93.1
December	101.1	102.7	December	96.1	97.6

Employment and pay rolls, all manufacturing industries—Continued

	Employment	Pay rolls
1925		
January	96.6	96.0
February	98.3	101.0
March	99.2	102.8
April	99.1	100.4
May	98.6	101.4
June	98.4	99.2
July	98.3	97.5
August	100.0	100.1
September	101.9	99.4
October	102.6	105.3
November	102.2	105.1
December	101.8	105.5
1926		
January	101.0	101.6
February	102.0	105.7
March	102.5	107.2
April	101.8	104.9
May	100.8	103.5
June	100.8	103.7
July	99.7	99.4
August	101.8	103.8
September	104.0	105.1
October	103.6	108.0
November	101.6	104.3
December	100.3	103.6
1927		
January	98.6	98.6
February	100.2	104.8
March	100.9	106.6
April	100.3	105.0
May	99.6	104.8
June	99.7	103.2
July	98.6	99.1
August	99.9	102.5
September	101.2	102.1
October	100.2	102.7
November	98.0	98.9
December	96.5	100.0
1928		
January	95.3	96.6
February	97.2	102.0
March	98.2	103.5
April	97.8	101.3
May	97.8	102.3
June	98.5	102.7
July	98.4	100.2
August	101.1	104.6
September	103.3	106.2
October	103.5	109.5
November	102.6	106.2
December	102.1	106.9
1929		
January	101.7	103.8
February	104.1	110.8
March	105.4	113.0
April	106.7	114.1
May	106.5	114.3
June	106.8	112.7
July	107.3	108.6
August	109.2	113.5
September	110.3	114.4
October	109.0	113.7
November	104.6	104.9
December	100.7	101.2
1930		
January	98.2	96.5
February	98.3	99.6
March	97.9	99.7
April	97.3	98.5
May	95.6	96.1
June	93.6	92.9
July	90.4	85.0
August	89.7	83.8
September	90.7	84.8
October	88.7	82.9
November	85.4	77.3
December	82.9	75.4
1931		
January	80.1	70.3
February	80.8	74.4
March	81.2	75.9
April	81.2	74.7
May	80.6	73.3
June	78.8	69.9
July	77.7	66.6
August	77.9	66.4
September	78.3	63.8
October	75.5	61.8
November	72.7	58.3
December	72.0	57.8
1932		
January	70.0	54.0
February	71.2	55.4
March	70.1	53.6
April	67.8	49.6
May	65.2	46.8
June	63.2	43.7
July	61.0	40.4
August	62.7	41.4
September	66.1	44.0
October	67.2	45.8
November	66.3	43.6
December	65.1	42.4
1933		
January	62.3	40.3
February	64.7	41.4
March	62.3	38.3
April	63.9	40.4
May	66.8	44.4
June	71.6	49.1
July	76.2	52.7
August	81.3	58.6
September	85.0	61.3
October	84.6	61.1
November	81.2	57.3
December	79.5	56.5
1934		
January	78.8	56.1
February	83.7	62.9
March	87.2	67.2
April	88.8	69.6
May	89.0	69.7
June	87.8	67.4
July	86.3	62.8
August	87.4	65.1
September	83.5	60.6
October	85.9	64.0
November	84.3	62.5
December	85.6	66.2
1935		
January	86.6	67.5
February	89.6	72.6
March	91.1	74.3
April	91.3	74.4
May	90.0	71.7
June	88.3	69.9
July	88.9	69.1
August	91.7	74.0
September	93.8	76.7
October	95.2	79.4
November	94.5	78.6
December	94.0	80.4
1936		
January	92.1	76.7
February	92.2	76.6
March	93.4	80.3
April	94.7	82.3
May	95.4	83.9
June	95.9	84.1
July	97.1	83.4
August	99.9	87.1
September	101.9	86.9
October	103.2	92.5
November	103.3	94.0
December	104.4	98.8

Employment and pay rolls, all manufacturing industries—Continued

	Employment	Pay rolls		Employment	Pay rolls
1937			1938		
January	102.7	94.4	January	87.8	75.0
February	105.3	99.7	February	88.2	76.9
March	107.7	105.5	March	87.7	77.1
April	108.8	109.3	April	85.7	74.6
May	108.9	109.7	May	83.4	72.9
June	107.5	107.0	June	81.6	70.8
July	108.0	104.6	July	81.9	70.6
August	109.1	108.2	August	85.7	76.8
September	109.0	104.4	September	88.8	81.0
October	107.2	104.5	October	89.5	83.7
November	101.1	92.9			
December	94.5	84.2			

Source: Bureau of Labor Statistics. The indexes are not adjusted for seasonal variation.

Exhibit No. 36

[Chart based on following statistical data appears in text on p. 50]

Employment and pay rolls in manufacturing nondurable goods group

[1923–25 average=100]

	Employment	Pay rolls		Employment	Pay rolls
1923			1926		
January	102.6	99.0	January	100.7	103.5
February	103.9	101.1	February	101.1	105.0
March	105.6	104.7	March	101.2	105.6
April	104.6	103.6	April	99.4	101.6
May	104.0	105.5	May	98.0	100.2
June	104.1	104.8	June	98.5	101.1
July	103.2	102.1	July	97.7	98.6
August	103.8	101.0	August	100.7	102.8
September	105.2	103.0	September	104.4	105.6
October	103.3	103.6	October	104.2	107.9
November	101.8	100.7	November	102.4	104.9
December	100.7	101.4	December	101.9	106.3
1924			1927		
January	99.6	99.6	January	101.1	104.3
February	100.9	102.2	February	102.3	108.2
March	100.2	100.8	March	102.6	108.5
April	97.1	96.8	April	101.2	105.5
May	94.5	93.9	May	100.0	101.9
June	92.8	91.0	June	101.1	105.4
July	90.6	87.2	July	101.2	103.9
August	93.2	91.6	August	103.3	107.0
September	96.9	96.6	September	106.2	108.8
October	97.0	97.4	October	104.9	108.3
November	96.4	95.6	November	102.8	104.7
December	97.7	100.1	December	101.3	106.0
1925			1928		
January	97.8	99.7	January	100.1	103.8
Feburary	99.3	102.2	February	101.3	106.4
March	99.7	103.4	March	101.3	106.3
April	98.4	99.1	April	99.4	101.2
May	97.1	99.3	May	98.0	100.6
June	97.7	98.1	June	98.7	102.3
July	98.7	98.7	July	99.4	101.5
August	101.3	101.9	August	102.2	104.8
September	103.7	101.0	September	105.1	107.7
October	103.2	104.9	October	105.4	109.7
November	102.2	103.9	November	104.1	106.2
December	101.4	104.4	December	103.6	108.2

Employment and pay rolls in manufacturing nondurable goods group—Continued

	Employment	Pay rolls
1929		
January	102.3	105.6
February	104.3	110.0
March	105.0	111.2
April	105.4	110.3
May	103.9	109.5
June	104.4	109.2
July	105.6	107.2
August	106.2	111.3
September	110.8	114.2
October	110.2	114.0
November	106.6	107.1
December	103.6	105.4
1930		
January	101.4	102.6
February	101.2	103.5
March	100.5	103.0
April	99.6	100.3
May	97.4	97.6
June	96.3	95.7
July	94.3	91.6
August	95.3	92.6
September	98.6	95.3
October	96.2	92.5
November	92.3	87.0
December	89.9	85.8
1931		
January	87.5	82.8
February	88.7	86.5
March	89.5	87.9
April	89.4	86.0
May	88.9	84.8
June	87.4	82.4
July	87.8	81.1
August	89.5	82.2
September	90.9	80.6
October	88.1	77.7
November	84.3	72.9
December	83.2	72.3
1932		
January	81.4	68.9
February	83.0	70.6
March	82.1	69.3
April	79.5	63.8
May	75.9	59.1
June	73.4	56.1
July	71.5	52.8
August	75.9	56.4
September	82.2	62.1
October	83.9	63.8
November	81.8	59.4
December	79.8	57.4
1933		
January	78.1	54.6
February	80.1	56.6
March	77.0	52.4
April	79.1	54.8
May	82.0	58.3
June	87.1	63.3
July	91.8	67.3
August	97.0	73.5
September	100.8	78.4
October	100.3	77.7
November	95.6	72.5
December	92.5	70.8
1934		
January	91.7	70.6
February	97.0	77.6
March	99.9	81.0
April	100.0	80.7
May	98.8	79.1
June	97.1	76.4
July	96.4	75.3
August	100.6	79.7
September	95.0	75.6
October	100.9	81.0
November	98.0	77.9
December	98.3	80.7
1935		
January	98.0	80.5
February	100.0	84.0
March	101.1	85.3
April	100.5	84.0
May	98.3	81.0
June	97.2	79.9
July	98.2	80.1
August	102.2	85.7
September	105.5	89.1
October	104.5	88.3
November	102.0	84.8
December	101.3	87.1
1936		
January	99.2	84.3
February	99.6	85.1
March	100.5	87.2
April	100.6	85.8
May	100.0	85.8
June	100.1	85.7
July	102.2	87.6
August	107.5	94.0
September	110.4	93.5
October	109.3	95.7
November	107.6	94.7
December	108.0	99.2
1937		
January	107.3	97.9
February	109 3	101.7
March	110.5	105.0
April	110.1	104.8
May	108.9	104.2
June	107.5	102.5
July	108.2	101.7
August	111.1	105.7
September	111.5	102.9
October	107.8	100.3
November	101.4	90.8
December	97.2	87.7
1938		
January	93.7	84.0
February	95.9	87.8
March	95.8	87.9
April	94.0	84.7
May	91.5	82.6
June	90.3	80.9
July	92.9	84.1
August	99.0	91.6
September	101.6	94.9
October	99.4	93.5

Source: Bureau of Labor Statistics. The indexes are not adjusted for seasonal variation.

Exhibit No. 37

[Chart based on following statistical data appears in text on p. 51]

Employment and pay rolls, locomotive

[1923–25 average = 100]

PAY ROLLS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1923	139.3	152.4	157.6	157.1	169.6	178.8	190.2	185.1	179.5	176.9	166.2	164.6
1924	92.5	74.4	65.4	67.0	73.5	82.2	78.8	61.8	57.4	63.6	76.7	81.6
1925	65.6	62.9	65.4	64.6	55.5	58.8	58.3	49.7	51.7	52.6	58.3	64.6
1926	76.4	79.6	81.1	78.7	80.2	84.4	84.6	79.8	77.2	78.7	77.9	88.5
1927	68.2	70.6	67.7	60.3	56.4	52.8	57.1	59.6	60.0	50.1	43.2	40.2
1928	40.2	43.4	42.2	38.8	40.0	44.6	40.5	39.1	39.7	36.3	34.5	35.4
1929	38.8	41.8	49.4	58.9	64.3	63.3	63.4	67.7	64.5	63.8	59.4	59.3
1930	59.2	60.7	62.6	64.4	62.8	61.0	52.4	47.4	44.2	36.2	33.9	32.9
1931	19.6	21.3	25.0	23.8	21.1	20.5	18.8	16.2	15.1	12.7	11.4	12.1
1932	11.2	11.6	11.8	12.0	11.1	9.3	7.9	7.6	6.2	6.2	6.3	6.3
1933	5.6	5.1	4.4	4.1	4.2	4.6	5.5	6.1	6.8	8.7	8.9	8.0
1934	7.7	7.9	9.3	11.1	12.9	14.8	16.6	17.9	17.7	17.2	16.9	16.8
1935	13.3	13.5	14.4	14.7	13.4	12.8	9.3	10.1	11.2	13.0	13.6	14.3
1936	11.2	13.6	15.7	17.9	20.6	22.4	24.2	24.6	25.7	26.9	28.1	31.4
1937	31.0	37.1	40.6	45.0	47.1	51.2	50.3	52.5	54.8	55.8	51.2	53.5
1938	37.6	36.9	32.5	25.6	22.3	19.6	15.5	13.1	11.1	[1]11.1	------	------

EMPLOYMENT

1923	148.2	153.4	161.6	155.8	160.7	165.7	171.6	171.9	162.1	160.5	147.2	133.9
1924	98.7	78.8	71.1	69.4	74.1	81.0	78.9	69.9	66.7	70.2	76.8	81.7
1925	70.9	68.0	69.8	69.6	63.4	64.4	65.3	61.3	59.6	60.4	66.3	71.3
1926	81.8	85.6	86.8	84.4	86.4	89.8	88.2	88.9	83.7	83.2	83.6	92.0
1927	77.1	77.4	75.5	69.9	67.4	67.7	69.1	71.9	68.2	58.2	50.5	47.5
1928	46.5	48.6	48.9	48.2	47.0	48.2	45.7	44.8	42.7	42.0	40.9	41.4
1929	41.5	42.4	48.1	57.3	63.4	62.2	66.2	64.4	60.2	60.3	57.7	57.7
1930	56.5	57.4	58.5	60.3	60.4	61.3	56.0	50.1	47.3	42.7	39.3	37.7
1931	30.3	31.2	33.8	32.4	29.8	28.9	28.4	26.6	24.1	23.4	22.6	23.1
1932	22.2	22.3	21.7	22.3	20.8	18.3	16.6	15.6	13.9	12.9	13.1	12.7
1933	11.2	10.1	8.5	7.9	7.7	8.3	9.6	13.9	14.9	18.8	18.4	16.5
1934	15.6	15.0	17.8	19.6	22.7	25.2	27.5	29.8	28.9	28.9	28.3	27.1
1935	21.7	21.7	22.8	22.6	20.4	19.6	14.8	15.8	16.5	18.2	20.1	19.7
1936	17.9	19.5	21.8	23.8	26.7	28.9	30.5	29.7	30.9	32.4	33.3	36.0
1937	36.8	41.4	44.5	47.1	48.3	48.8	51.3	51.9	52.9	52.6	50.6	48.8
1938	42.9	39.4	35.9	30.8	27.1	25.1	20.2	18.0	16.1	[1]16.1	------	------

[1] Preliminary.

Source: U. S. Bureau of Labor Statistics.

Exhibit No. 38

[Chart based on following statistical data appears in text on p. 52]

Employment and pay rolls, lumber sawmills (1923–25 average = 100)

PAY ROLLS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1923	85.8	88.5	93.2	98.5	105.1	109.8	109.0	108.3	108.6	108.8	108.8	105.6
1924	95.3	101.6	102.5	104.0	104.6	103.2	95.8	95.0	98.0	98.2	96.1	95.6
1925	88.6	95.3	97.3	98.1	100.5	104.0	99.7	97.6	101.5	101.4	98.6	97.2
1926	87.8	92.6	93.0	96.0	99.3	101.9	97.4	100.2	100.1	100.3	97.5	93.2
1927	84.1	85.9	87.5	86.5	91.9	92.6	89.0	91.1	92.6	92.3	90.0	84.9
1928	77.3	79.8	84.1	86.7	89.6	90.1	87.0	89.8	91.3	92.2	90.6	87.1
1929	79.9	82.5	84.7	90.1	94.6	94.1	95.6	95.5	97.2	95.6	91.2	87.8
1930	75.5	74.3	79.3	79.7	79.1	76.5	67.2	61.9	60.3	58.3	52.3	46.9
1931	38.6	38.1	38.3	36.8	38.3	38.0	34.7	33.0	32.1	28.9	25.4	20.7
1932	17.8	17.7	17.8	18.2	18.6	18.5	17.8	17.9	18.8	20.0	19.6	18.3
1933	17.4	17.2	17.1	18.1	19.8	23.1	25.8	29.0	32.2	32.4	31.0	29.4
1934	25.9	28.6	31.2	33.8	36.5	34.8	32.1	34.5	34.6	35.5	33.9	32.0
1935	31.0	34.4	35.8	38.4	33.3	34.2	38.2	45.0	47.9	48.1	43.8	42.9
1936	41.7	40.8	46.3	49.0	51.9	52.5	49.8	52.8	53.8	54.7	49.2	47.6
1937	43.6	47.1	56.2	61.3	62.3	67.8	62.7	66.9	62.6	58.9	48.2	40.4
1938	37.5	30.3	44.5	44.4	45.4	45.4	41.6	50.2	50.7	[1]50.4	------	------

[1] Preliminary.

Employment and pay rolls, lumber sawmills (1923–25 average=100)—Continued

EMPLOYMENT

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1923	96.4	98.9	99.7	102.0	104.3	107.3	108.1	107.3	107.4	106.0	104.6	101.6
1924	98.0	100.0	99.6	101.1	102.0	99.6	98.2	98.0	98.2	98.5	97.1	95.4
1925	94.7	96.2	95.2	97.9	98.8	100.5	99.3	98.7	99.8	98.8	96.8	94.8
1926	92.3	92.0	92.4	96.6	98.3	99.3	98.7	99.1	97.0	95.4	93.7	91.5
1927	86.8	85.5	85.3	85.7	88.0	88.3	88.0	88.5	88.7	87.2	86.3	81.4
1928	78.8	78.8	81.2	83.4	84.4	86.3	85.1	87.2	87.8	87.6	87.2	84.9
1929	82.3	82.5	83.9	87.3	89.5	91.0	91.2	92.9	91.4	89.0	87.2	83.7
1930	77.8	75.0	75.7	75.2	74.6	72.1	67.8	64.5	61.1	59.7	56.0	51.8
1931	46.6	45.4	43.9	44.3	44.3	43.8	41.4	40.3	38.9	37.6	35.6	31.4
1932	30.2	29.8	29.7	30.8	31.1	31.7	31.4	31.7	32.7	34.0	33.8	33.0
1933	31.8	31.3	31.2	32.5	34.4	38.7	42.2	45.1	47.3	48.0	46.8	45.6
1934	42.2	43.7	45.9	48.5	51.2	50.2	49.3	50.1	49.7	50.6	49.1	47.9
1935	47.0	50.0	51.3	53.3	52.6	48.3	53.1	57.5	58.1	58.4	56.4	54.7
1936	53.7	53.9	56.4	58.5	60.4	60.7	61.2	61.6	62.5	62.4	59.3	58.1
1937	56.0	57.3	62.2	63.8	65.4	66.9	67.7	67.5	66.0	63.5	57.4	51.6
1938	47.9	48.3	51.0	51.0	51.1	50.1	49.8	52.4	53.6	[1] 53.5	------	------

[1] Preliminary.

Source: U. S. Bureau of Labor Statistics.

Exhibit No. 39

[Chart based on following statistical data appears in text on p. 52]

Employment and pay rolls, cement

(1923–25 average=100)

PAY ROLLS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1923	81.9	83.7	87.2	89.1	92.9	95.3	97.7	100.8	102.4	102.8	101.7	99.3
1924	94.5	98.6	101.1	104.3	104.1	109.0	103.5	106.1	105.9	104.8	102.4	99.9
1925	85.5	90.9	95.5	100.0	104.2	107.2	106.9	110.7	109.8	108.7	108.7	102.0
1926	86.2	87.9	91.3	95.1	102.7	108.7	105.1	113.1	108.8	109.0	105.1	98.0
1927	86.8	88.2	95.3	102.6	109.9	108.6	106.3	108.2	106.9	105.7	100.8	93.4
1928	89.5	85.2	87.9	95.9	100.9	102.1	104.7	106.0	101.7	102.0	95.3	91.1
1929	81.6	84.1	88.1	92.9	96.9	99.9	97.5	100.7	100.6	96.8	90.9	86.3
1930	72.0	74.8	82.0	91.1	95.8	101.9	90.1	90.6	87.3	83.7	69.7	62.0
1931	50.5	57.1	60.2	65.1	69.2	68.4	63.6	59.5	54.1	50.8	45.5	38.6
1932	32.7	33.0	32.2	31.8	32.1	30.9	28.3	27.8	29.2	30.1	28.1	21.8
1933	19.7	19.7	20.3	22.5	25.6	29.8	32.3	36.5	30.3	29.2	27.5	23.6
1934	23.9	28.3	30.3	38.9	46.3	50.3	49.3	44.7	42.9	41.1	37.9	31.2
1935	27.8	28.4	31.6	39.1	46.2	49.3	46.6	44.0	43.3	43.0	40.7	38.0
1936	28.6	29.0	38.8	46.8	53.8	55.6	57.3	59.6	60.3	61.3	62.4	58.1
1937	49.3	52.0	61.8	67.7	70.7	74.2	71.7	76.2	72.0	71.4	66.6	57.4
1938	43.9	44.2	49.7	58.0	65.7	65.1	66.0	65.4	63.4	66.5	------	------

EMPLOYMENT

1923	84.9	86.8	90.4	92.4	95.2	96.7	99.5	98.7	99.2	98.5	99.5	98.0
1924	96.6	96.1	98.2	100.5	103.0	102.5	103.4	104.1	103.2	101.8	102.6	99.4
1925	94.5	92.7	96.6	102.5	105.3	107.8	108.9	109.8	110.3	109.0	106.7	104.4
1926	95.9	94.9	94.4	98.2	103.3	106.5	107.8	108.3	107.6	106.2	103.6	98.4
1927	91.6	89.5	94.9	98.6	101.1	103.3	104.2	104.2	103.5	100.7	97.1	90.6
1928	86.0	84.3	86.9	90.2	94.1	96.9	97.8	99.6	97.1	95.8	93.2	89.6
1929	86.6	84.9	87.3	89.5	92.4	94.7	95.5	95.7	94.4	91.4	88.7	83.6
1930	76.0	75.9	82.0	88.5	93.2	95.4	91.7	91.8	88.3	84.1	77.5	70.7
1931	63.1	63.7	67.1	71.4	73.8	71.5	71.8	68.1	64.5	63.0	58.0	53.8
1932	48.5	47.7	47.6	48.0	45.8	46.0	45.2	42.5	46.8	47.8	45.9	37.2
1933	34.0	33.7	34.1	40.2	42.1	48.2	51.9	54.9	49.8	43.3	43.2	38.7
1934	39.0	45.1	47.0	53.9	64.0	65.8	65.2	61.8	60.9	57.5	55.5	48.6
1935	43.7	44.0	48.0	56.1	63.6	66.9	64.3	60.4	58.4	59.4	56.0	51.0
1936	43.1	43.1	50.4	59.4	66.3	66.8	68.2	69.4	70.4	70.9	69.4	67.0
1937	61.7	63.0	68.7	72.4	74.1	75.3	75.3	75.5	75.5	74.8	71.5	66.5
1938	54.3	53.3	57.7	64.6	66.7	68.1	70.3	69.9	68.0	[1] 69.9	------	------

[1] Preliminary.

Source: U. S. Bureau of Labor Statistics.

Exhibit No. 40

[Chart based on following statistical data appears in text on p. 53]

Employment and pay rolls, cotton goods

[1923–25 average=100]

PAY ROLLS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1923	107.5	107.7	110.0	113.4	121.3	115.9	106.1	107.8	111.7	103.5	103.6	112.8
1924	109.8	107.9	100.4	95.2	89.4	83.0	73.5	78.0	82.7	89.7	88.6	101.5
1925	102.0	103.3	104.3	104.1	102.1	96.5	89.5	90.4	84.2	97.6	100.6	104.9
1926	104.4	105.6	106.8	105.0	97.1	94.2	83.8	86.5	94.7	99.2	100.4	104.7
1927	103.7	107.6	109.1	107.5	106.9	106.6	103.5	104.2	105.7	107.0	104.1	102.9
1928	96.6	94.7	92.3	88.2	84.4	82.5	81.7	79.5	83.1	89.5	92.6	95.9
1929	93.7	96.1	95.9	94.6	93.3	91.0	86.8	84.3	86.8	89.7	85.3	83.5
1930	81.3	80.3	78.5	77.9	73.6	69.6	61.3	58.2	61.1	63.1	63.1	65.2
1931	61.6	62.1	65.8	67.3	68.5	64.1	61.9	60.4	58.6	56.4	52.5	53.2
1932	51.6	54.6	53.0	44.8	37.7	32.2	30.0	35.0	46.0	49.1	47.1	45.3
1933	43.7	43.4	39.7	41.1	47.5	59.2	67.1	80.2	78.0	78.6	73.7	69.7
1934	71.8	77.4	81.4	82.2	75.7	61.8	62.3	59.3	35.3	70.4	67.7	72.8
1935	73.5	74.4	72.0	65.8	62.7	57.7	56.3	56.8	62.4	67.2	68.1	72.3
1936	69.9	70.0	69.3	68.6	68.9	69.4	71.8	75.6	74.7	79.4	80.6	90.0
1937	91.7	92.0	92.9	98.6	97.5	92.6	88.6	88.8	84.6	77.9	70.2	67.8
1938	64.3	65.1	66.5	62.1	60.3	58.5	63.7	68.4	71.1	172.6	------	------

EMPLOYMENT

1923	111.9	112.4	113.7	113.4	113.3	111.3	102.5	100.2	101.4	98.5	100.1	102.2
1924	100.3	100.6	97.7	94.2	91.5	89.7	82.0	84.3	86.8	91.6	92.2	98.9
1925	101.1	102.5	102.7	103.5	102.4	101.2	94.2	95.1	94.5	101.9	104.5	105.6
1926	105.7	106.1	107.0	105.9	103.0	100.3	93.6	93.3	99.1	102.0	102.8	104.4
1927	105.0	106.5	106.9	106.4	106.1	106.2	105.6	104.7	105.9	106.2	106.1	105.7
1928	102.4	101.4	99.7	97.3	92.7	92.0	90.1	88.9	90.8	94.4	97.4	98.7
1929	99.0	99.6	99.0	97.2	97.5	97.4	94.1	92.1	94.7	95.6	94.4	92.8
1930	91.1	89.2	88.2	87.4	84.2	81.5	76.0	72.9	74.3	74.2	75.1	74.4
1931	72.8	72.8	75.2	76.6	78.4	76.2	75.3	74.0	74.3	72.9	72.2	72.4
1932	71.4	73.9	73.4	67.6	61.9	55.7	53.7	59.3	69.7	73.4	73.0	72.7
1933	72.3	71.7	69.3	70.7	76.3	88.4	97.8	99.9	97.9	99.1	95.3	92.4
1934	93.1	97.7	100.8	100.8	98.8	91.6	89.6	85.8	48.1	87.9	87.8	89.5
1935	90.1	90.3	89.1	85.6	82.0	79.3	76.6	75.9	79.3	82.4	84.6	86.2
1936	85.8	85.7	85.8	84.7	84.7	85.0	87.6	90.3	91.6	93.2	94.9	96.8
1937	98.0	99.6	100.3	100.9	100.8	98.3	97.3	96.2	93.8	89.5	86.9	84.8
1938	82.6	81.8	82.4	79.3	77.1	76.0	78.2	81.3	83.2	183.7	------	------

[1] Preliminary.

Source: U. S. Bureau of Labor Statistics.

Exhibit No. 41

[Chart based on following statistical data appears in text on p. 53]

Employment and pay rolls, cigars and cigarettes

[1923–25 average=100]

PAY ROLLS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1923	109.0	104.7	109.4	103.7	101.8	104.8	100.0	90.1	101.2	108.4	108.8	111.9
1924	103.2	101.2	100.8	92.9	96.1	99.6	97.1	96.3	100.2	90.4	105.6	106.9
1925	99.1	91.4	93.7	77.7	96.7	95.8	94.3	95.4	95.4	103.5	106.3	106.7
1926	91.2	87.4	92.9	86.6	86.4	92.6	88.7	88.4	94.1	98.4	98.8	96.2
1927	81.1	84.4	87.0	84.8	91.2	94.6	93.8	87.3	100.2	100.3	100.2	96.2
1928	84.4	84.0	85.7	79.2	83.1	88.7	88.9	87.4	91.5	93.6	92.8	92.0
1929	71.5	77.8	80.3	82.0	82.3	84.0	83.5	86.1	88.9	89.3	89.5	82.2
1930	69.7	72.7	74.0	70.6	75.8	78.0	75.6	70.6	73.5	72.0	70.7	71.4
1931	57.2	58.0	61.2	59.5	61.6	62.0	61.2	59.8	56.5	58.4	58.7	52.6
1932	46.5	47.4	46.9	44.1	43.5	47.2	46.9	44.9	46.3	48.0	48.2	46.5
1933	34.0	36.7	33.2	33.0	42.1	43.9	44.2	44.5	48.6	52.1	51.5	47.5
1934	39.3	45.6	46.4	47.8	48.3	49.8	49.6	52.3	53.3	52.7	52.9	53.8
1935	43.8	43.4	47.5	46.7	47.7	51.1	52.2	51.3	54.5	56.1	54.4	54.8
1936	44.4	47.1	48.8	46.0	51.1	53.6	54.5	57.5	56.6	58.5	58.5	58.9
1937	48.9	55.7	55.3	55.2	56.6	58.9	59.4	61.2	59.7	61.4	61.2	58.7
1938	45.4	50.3	53.0	51.3	55.4	58.0	55.6	58.1	59.6	60.4	------	------

Employment and pay rolls, cigars and cigarettes—Continued

EMPLOYMENT

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1923	109.0	108.3	110.4	106.6	105.8	105.8	102.7	99.7	105.2	106.2	107.7	107.1
1924	101.3	101.5	100.0	96.1	96.1	96.5	97.6	96.9	99.2	91.1	101.7	100.9
1925	96.8	96.0	97.7	89.4	95.8	94.3	93.9	92.6	95.4	98.5	98.4	98.8
1926	87.6	91.7	90.8	87.4	87.9	91.7	88.4	85.8	91.3	94.1	94.3	94.3
1927	84.9	91.4	91.8	91.0	92.9	95.8	96.6	89.4	100.8	102.9	102.7	98.1
1928	88.6	92.3	93.4	90.7	92.1	92.5	87.1	93.7	95.5	97.8	97.0	92.9
1929	79.4	87.6	87.4	86.8	85.6	86.2	85.4	87.5	87.4	88.7	89.4	80.5
1930	75.3	80.3	81.0	80.1	81.4	81.3	80.5	76.4	79.9	80.2	79.4	77.3
1931	67.3	75.2	74.8	73.4	73.4	72.8	72.5	72.1	72.7	73.1	72.6	65.3
1932	62.5	65.5	64.8	63.2	62.2	64.0	63.6	63.8	65.9	68.0	69.1	65.6
1933	57.1	61.0	55.3	54.5	62.4	64.5	64.0	65.7	65.2	68.4	70.4	66.2
1934	56.8	65.8	68.8	69.7	66.1	68.2	66.8	71.8	71.5	72.4	71.0	68.9
1935	62.3	63.6	64.6	64.0	64.1	65.8	65.7	66.3	67.5	68.8	68.4	66.5
1936	58.4	63.0	63.6	63.0	64.8	65.1	65.5	68.4	69.2	70.0	71.6	68.6
1937	61.1	65.0	65.8	65.0	64.7	64.9	65.8	67.0	67.4	67.8	68.2	65.6
1938	54.8	63.0	64.0	63.6	64.2	65.3	61.7	64.9	66.8	[1] 67.4	------	------

[1] Preliminary.

Source: U. S. Bureau of Labor Statistics.

Exhibit No. 42

[Chart based on following statistical data appears in text on p. 54]

Employment and pay rolls, woolen and worsted goods

(1923-25 average = 100)

PAY ROLLS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1923	101.7	103.6	105.3	107.0	118.9	117.3	111.9	106.4	108.2	110.6	108.6	110.0
1924	104.3	106.8	102.8	94.3	91.6	86.0	80.9	87.2	94.8	104.3	106.3	111.4
1925	107.6	104.6	99.5	95.4	92.8	88.9	88.7	86.5	84.3	89.4	91.2	90.6
1926	90.0	82.8	80.9	78.7	78.8	79.6	79.2	79.6	82.1	92.8	90.7	92.7
1927	90.6	91.3	86.1	82.5	81.7	82.7	78.3	82.9	83.9	85.9	85.0	86.0
1928	83.0	82.5	76.9	73.7	78.2	79.3	74.2	76.2	74.7	83.0	83.5	85.5
1929	82.4	83.1	81.0	82.1	83.0	80.7	77.3	80.5	81.4	83.6	74.4	71.3
1930	69.7	66.6	60.4	55.6	63.6	64.0	60.4	60.7	61.2	56.5	53.2	53.7
1931	51.9	60.4	61.7	55.4	61.3	63.1	66.3	68.4	57.4	48.8	46.8	46.1
1932	47.3	52.6	43.9	39.2	37.3	35.5	30.2	40.1	45.0	45.2	38.9	40.3
1933	38.6	44.4	25.8	28.8	39.7	56.3	64.9	68.7	64.9	61.5	51.4	51.0
1934	52.2	59.2	56.1	51.3	50.3	45.9	47.0	45.2	23.9	44.6	50.8	62.8
1935	68.8	70.6	68.6	63.2	67.7	73.0	70.9	73.1	72.1	75.1	75.4	79.9
1936	74.3	73.1	67.8	63.7	63.6	64.1	65.3	67.4	57.8	63.0	68.9	87.9
1937	86.7	85.7	82.4	86.9	84.9	81.9	74.9	71.5	60.1	55.1	44.6	51.7
1938	51.0	52.5	41.1	35.4	38.9	47.4	55.5	62.1	57.5	[1] 58.2	------	------

EMPLOYMENT

1923	107.8	109.4	110.6	111.8	112.0	110.9	109.7	108.7	106.9	107.3	108.6	107.7
1924	105.5	105.1	104.0	98.3	95.4	91.7	87.0	88.0	93.7	100.2	102.0	103.2
1925	100.8	99.4	96.8	95.2	91.9	90.8	89.3	89.3	88.3	90.2	90.8	89.5
1926	88.7	82.8	81.0	80.4	80.1	79.9	79.9	80.3	84.3	89.4	91.1	90.7
1927	90.6	91.0	87.9	85.8	84.1	84.8	81.3	85.1	86.2	87.4	88.4	88.1
1928	86.5	85.6	82.6	80.8	81.7	83.0	79.5	81.3	79.4	83.9	86.8	86.4
1929	85.2	84.5	83.5	83.6	84.0	82.7	80.7	83.1	83.6	84.3	79.9	76.1
1930	75.0	72.5	67.5	63.3	67.3	69.0	67.0	68.0	68.0	64.6	62.8	61.2
1931	60.6	66.2	68.1	64.3	69.2	72.4	75.5	76.9	72.4	61.2	60.0	58.7
1932	59.6	65.1	58.1	46.5	43.2	41.5	48.2	60.1	64.9	65.3	60.0	59.9
1933	59.4	65.3	48.2	50.2	61.8	77.5	88.7	91.7	86.5	83.7	73.6	70.6
1934	72.4	78.8	75.7	69.2	69.8	64.1	65.5	64.1	34.8	64.3	70.7	80.6
1935	86.4	88.6	87.3	82.6	86.4	91.7	89.7	92.4	91.2	93.6	97.8	97.2
1936	92.8	92.4	88.3	83.3	82.2	82.6	83.5	85.4	81.5	82.1	87.7	95.8
1937	96.8	96.6	94.5	93.1	92.0	90.0	84.4	81.9	73.7	71.6	62.6	63.9
1938	61.9	62.6	54.4	48.8	54.1	61.0	68.4	75.1	72.7	[1] 72.0	------	------

[1] Preliminary.

Source: U. S. Bureau of Labor Statistics.

Exhibit No. 43

[Chart based on following statistical data appears in text on p. 55]

Employment and average weekly hours in manufacturing, mining, and steam railroads

[1914=100]

Year	Average number of wage earners	Average weekly hours	Total man-hours	Year	Average number of wage earners	Average weekly hours	Total man-hours
1914	100.0	100.0	100.0	1930	106.3	84.7	90.0
1919	126.4	92.9	117.5	1931	90.1	81.2	73.2
1923	123.6	90.6	112.2	1932	75.9	75.7	57.5
1924	114.9	86.9	100.1	1933	81.5	73.3	59.8
1925	117.5	88.4	104.0	1934	93.6	68.6	64.2
1926	119.7	90.0	107.8	1935	98.4	71.0	69.9
1927	117.1	89.4	104.7	1936	105.4	75.3	79.5
1928	115.4	88.8	102.6	1937	113.2	74.3	84.1
1929	120.9	88.8	107.5				

Source: Compiled by the U. S. Bureau of Labor Statistics.

Exhibit No. 44

[Chart based on following statistical data appears in text on p. 57]

All manufacturing industries

	Average weekly earnings (in dollars)	Average hours worked per week (in hours)	Average hourly earnings (in cents)		Aerage weekly earnings in dollars	Average hours worked per week (in hours)	Average hourly earnings (in cents)
1932							
January	19.85	38.4	50.6	July	18.60	33.4	55.6
February	19.97	39.2	50.1	August	18.89	34.0	55.5
March	19.77	38.6	48.3	September	18.55	33.3	55.9
April	18.85	37.4	48.1	October	18.95	34.3	55.3
May	18.65	37.4	48.1	November	18.87	34.1	55.4
June	17.89	36.5	46.9	December	19.73	35.2	56.0
July	17.19	35.6	46.6				
August	16.79	36.5	45.3	1935			
September	16.82	38.4	43.8				
October	17.36	39.8	43.1	January	19.99	35.2	56.4
November	17.00	38.4	43.4	February	20.93	36.4	56.7
December	16.94	38.2	43.2	March	21.09	36.6	56.8
				April	21.17	36.4	57.1
1933				May	20.78	35.8	57.1
				June	20.54	35.4	57.5
January	16.62	37.5	42.6	July	20.12	35.2	56.9
February	16.48	38.1	42.3	August	20.85	36.6	56.8
March	15.70	36.6	43.4	September	21.14	37.4	56.3
April	16.23	38.0	42.7	October	21.64	38.2	56.4
May	17.17	40.8	42.2	November	21.80	37.8	56.7
June	17.89	42.6	41.8	December	22.33	38.7	57.2
July	17.87	42.5	41.9				
August	18.68	38.5	48.2	1936			
September	18.38	36.2	50.9				
October	18.59	35.8	52.1	January	21.59	37.3	57.3
November	17.71	34.4	51.9	February	21.44	37.4	57.1
December	17.97	34.2	52.5	March	22.25	38.6	57.2
				April	22.66	38.7	57.3
1934				May	22.95	39.2	57.4
				June	22.92	39.2	57.5
January	18.01	33.7	53.3	July	22.39	38.5	57.2
February	19.02	35.8	53.1	August	22.67	39.4	57.1
March	19.48	36.3	53.1	September	22.20	38.7	56.9
April	19.96	36.2	54.1	October	23.46	40.5	57.4
May	19.81	35.4	55.1	November	23.94	40.6	57.9
June	19.48	34.9	55.0	December	24.87	41.1	59.4

All manufacturing industries—Continued

	Average weekly earnings (in dollars)	Average hours worked per week (in hours)	Average hourly earnings (in cents)		Average weekly earnings (in dollars)	Average hours worked per week (in hours)	Average hourly earnings (in cents)
1937				1938			
January	24.02	39.6	59.6	January	21.89	33.2	66.3
February	24.73	40.4	60.2	February	22.30	34.3	65.6
March	25.54	41.0	61.3	March	22.46	34.5	65.5
April	26.30	40.4	63.8	April	22.28	34.2	65.2
May	26.39	39.8	64.9	May	22.17	34.4	65.0
June	26.00	39.2	65.3	June	22.30	34.4	64.8
July	25.31	37.9	65.7	July	21.17	34.9	63.9
August	25.84	38.7	65.6	August	22.90	36.[illegible]	62.9
September	24.92	37.4	65.8	September	23.32	[illegible]	64.2
October	25.59	37.6	66.6				
November	25.92	35.4	66.7				
December	22.93	34.4	66.6				

Source: Compiled by the U. S. Bureau of Labor Statistics.

EXHIBIT No. 45

[Chart based on following statistical data appears in text on p. 58]

Output per man-hour

[1923–25 average = 100]

Year	Manufacturing	Bituminous-coal mining	Anthracite mining	Steam railroads
1909	61.9	67.1	85.1	
1914	71.6	74.6	90.0	75.3
1923	93.8	99.1	103.7	96.3
1929	120.3	107.1	99.9	113.8
1932	124.7	110.3	119.0	111.8
1936	140.4	119.4	149.1	140.4
1937	137.3	122.0	158.0	143.1

Source: Compiled by the U. S. Bureau of Labor Statistics.

EXHIBIT No. 46

[Chart based on following statistical data appears in text on p. 60]

Real wages, in manufacturing, mining and steam railroads

Year	Weekly cash wages	Weekly real wages	Year	Weekly cash wages	Weekly real wages
1914	$11.60	$11.60	1930	$24.02	$14.41
1919	22.85	13.15	1931	21.72	14.27
1923	24.53	14.42	1932	17.86	13.03
1924	24.51	14.38	1933	17.30	13.29
1925	24.89	14.23	1934	18.90	13.99
1926	25.37	14.39	1935	20.32	14.65
1927	25.24	14.60	1936	21.87	15.60
1928	25.47	14.89	1937	23.83	16.46
1929	25.65	15.00			

Source: Compiled by the U. S. Bureau of Labor Statistics. Weekly real wages are computed from weekly cash wages by the use of the U. S. Bureau of Labor Statistics index of the cost of living with 1914 = 100.

EXHIBIT No. 47 appears in the text on p. 61

Exhibit No. 48

[Chart based on following statistical data appears in text on p. 64]

Estimated number and age of the unemployed, by sex, November 1937

Age	Sex	Number of unemployed	Age	Sex	Number of unemployed
15–19	Male	1,144,110	45–49	Male	604,539
	Female	813,643		Female	229,715
20–24	Male	1,255,724	50–54	Male	564,781
	Female	747,388		Female	178,993
25–29	Male	824,096	55–59	Male	466,006
	Female	430,639		Female	120,123
30–34	Male	651,420	60–64	Male	367,909
	Female	324,429		Female	74,791
35–39	Male	618,529	65–69	Male	223,361
	Female	319,564		Female	36,994
40–44	Male	628,885	70–74	Male	81,006
	Female	275,131		Female	8,263

Source: Census of Partial Employment, Unemployment and Occupations, November 1937. The data include all totally unemployed and those with emergency employment. The figures differ slightly from those published in table 3, vol. IV, of the final report on Total and Partial Unemployment due to revisions. They represent the adjustment of the unemployment census figures by the enumerative check.

Exhibit No. 49

[Chart based on following statistical data appears in text on p. 67]

Estimated net total number of households and persons receiving relief, and emergency employment on Federal work programs, continental United States

	Households	Persons		Households	Persons
1933			**1936**		
January	4,656,000	18,283,000	January	6,051,000	20,594,000
February	4,976,000	19,565,000	February	6,209,000	21,188,000
March	5,472,000	21,537,000	March	6,208,000	21,147,000
April	5,361,000	21,113,000	April	5,970,000	20,300,000
May	5,287,000	20,719,000	May	5,759,000	19,278,000
June	4,868,000	18,919,000	June	5,556,000	18,444,000
July	4,570,000	17,365,000	July	5,393,000	17,765,000
August	4,396,000	16,992,000	August	5,506,000	18,144,000
September	3,996,000	15,162,000	September	5,579,000	18,470,000
October	4,142,000	15,688,000	October	5,848,000	18,856,000
November	5,455,000	19,973,000	November	5,918,000	19,021,000
December	7,101,000	24,946,000	December	5,876,000	18,775,000
1934			**1937**		
January	7,855,000	27,578,000	January	5,905,000	19,004,000
February	7,916,000	27,749,000	February	5,873,000	18,634,000
March	7,201,000	25,613,000	March	5,942,000	18,869,000
April	6,326,000	22,639,000	April	5,845,000	18,357,000
May	5,757,000	20,954,000	May	5,652,000	17,516,000
June	5,698,000	20,716,000	June	5,382,000	16,761,000
July	5,944,000	21,615,000	July	4,973,000	15,213,000
August	6,165,000	22,459,000	August	4,773,000	14,398,000
September	6,165,000	22,259,000	September	4,689,000	13,993,000
October	6,276,000	22,409,000	October	4,825,000	14,159,000
November	6,444,000	22,953,000	November	4,977,000	14,660,000
December	6,598,000	23,672,000	December	5,322,000	15,919,000
1935			**1938**		
January	6,779,000	24,211,000	January	5,781,000	17,650,000
February	6,702,000	23,965,000	February	6,116,000	18,910,000
March	6,667,000	23,704,000	March	6,463,000	20,174,000
April	6,656,000	23,451,000	April	6,588,000	20,719,000
May	6,584,000	23,054,000	May	6,723,000	21,158,000
June	6,265,000	21,898,000	June	6,711,000	21,297,000
July	6,037,000	21,133,000	July	6,641,000	21,208,000
August	5,984,000	20,739,000	August	6,745,000	21,581,000
September	5,593,000	19,235,000	September	[1] 6,790,000	[1] 21,720,000
October	5,621,000	19,053,000	October	[1] 6,993,000	[1] 22,250,000
November	5,533,000	18,686,000			
December	5,863,000	20,034,000			

[1] Preliminary.

Source: Works Progress Administration.

Exhibit No. 50

[Chart based on following statistical data appears in text on p. 69]

Estimated total [1] funds used for relief and work programs by major programs

	Total [1]	Public works [3]	Work programs [4]	Direct assistance [5]
1933	$1, 563, 000, 000	$464, 000, 000	$301, 000, 000	$609, 000, 000
1934	3, 815, 000, 000	1, 196, 000, 000	1, 064, 000, 000	1, 555, 000, 000
1935	3, 954, 000, 000	1, 054. 000, 000	944, 000, 000	1, 956, 000, 000
1936	5, 460, 000, 000	1, 914, 000, 000	2, 678, 000, 000	868, 000, 000
1937	4, 771, 000, 000	1, 647, 000, 000	2, 133, 000, 000	991, 000, 000
1938 [2]	5, 638, 000, 000	1, 666, 000, 000	2, 761, 000, 000	1, 211, 000, 000

[1] Includes Federal, State, and local funds. Data are for calendar years.
[2] Estimated.
[3] Public works: Public Works Administration, non-Federal (value of goods and services in place). Bureau of Public Roads (funds earned by States). Other Federal agencies—regular (obligations incurred), Emergency funds—Public Works Administration fund (value of goods and services in place), Emergency Relief Administration funds (voucher payments), Works Progress Administration fund (voucher payments).
[4] Work programs: Civil Works Administration (obligations incurred), Civilian Conservation Corps (obligations incurred), Works Progress Administration (obligations incurred and sponsors' pledges liquidated).
[5] Direct assistance: Federal Emergency Relief Administration and State and local relief programs (obligations incurred); rural rehabilitation, loans, and grants (Farm Security Administration and Puerto Rico Reconstruction Administration) [voucher payments]; Social Security Board and other categorical assistance (obligations incurred).

Source: Works Progress Administration.

Exhibit No. 51

[Chart based on following statistical data appears in text on p. 70]

Persons employed by the Federal Government and on work programs

[Thousands of employees]

MILITARY

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1933	261	261	261	261	261	261	260	261	261	262	263	263
1934	264	253	254	255	255	255	255	256	257	257	258	260
1935	260	261	261	259	257	254	259	261	270	276	282	285
1936	286	287	290	295	297	297	298	299	301	303	304	306
1937	309	311	314	316	317	318	319	331	325	323	323	323
1938	327	329	334	332	330	329	329	329	------	------	------	------

CIVIL

1933	835	835	836	839	842	851	839	829	831	845	867	876
1934	879	865	866	880	896	912	912	921	925	929	932	927
1935	923	924	929	930	939	937	945	963	1, 002	1, 024	1, 039	1, 047
1936	1, 068	1, 050	1, 053	1, 065	1, 073	1, 081	1, 087	1, 096	1, 101	1, 105	1, 112	1, 112
1937	1, 108	1, 110	1, 109	1, 113	1, 119	1, 123	1 151	1, 142	1, 129	1, 123	1, 113	1, 109
1938	1, 184	1, 109	1, 110	1, 117	1, 125	1, 132	1, 156	1, 187	------	------	------	------

CONSTRUCTED FROM REGULAR FEDERAL FUNDS

1933	987	985	1, 010	1, 041	1, 063	1, 091	1, 048	1, 012	985	970	968	941
1934	923	903	897	922	948	965	958	970	971	977	974	974
1935	961	962	967	973	982	987	997	1, 014	1, 064	1, 095	1, 114	1, 113
1936	1, 123	1, 099	1, 107	1, 131	1, 156	1, 191	1, 235	1, 263	1, 275	1, 282	1, 284	1, 265
1937	1, 228	1, 223	1, 289	1, 246	1, 279	1, 301	1, 344	1, 346	1, 336	1, 341	1, 324	1, 289
1938	1, 338	1, 254	1, 267	1, 291	1, 328	1, 354	1, 392	1, 440	------	------	------	------

Persons employed by the Federal Government and on work programs—Continued

PUBLIC WORKS ADMINISTRATION

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1933							1,048	1,016	1,033	1,116	1,223	1,242
1934	1,222	1,215	1,204	1,305	1,455	1,577	1,601	1,601	1,546	1,504	1,477	1,383
1935	1,291	1,250	1,269	1,342	1,411	1,442	1,438	1,444	1,437	1,431	1,403	1,367
1936	1,345	1,301	1,354	1,441	1,521	1,591	1,623	1,644	1,634	1,610	1,585	1,527
1937	1,430	1,398	1,402	1,438	1,485	1,505	1,543	1,534	1,503	1,491	1,445	1,394
1938	1,435	1,346	1,361	1,395	1,444	1,481	1,502	1,549				

CIVILIAN CONSERVATION CORPS

1933						1,282	1,332	1,332	1,340	1,359	1,518	1,686
1934	1,543	1,546	1,526	1,552	1,769	1,913	1,881	1,990	1,931	1,840	1,869	1,769
1935	1,640	1,647	1,642	1,636	1,778	1,825	1,865	1,924	2,024	1,961	1,950	1,897
1936	1,847	1,773	1,802	1,791	1,906	1,993	2,001	2,043	2,013	1,926	1,985	1,913
1937	[1] 1,801	1,802	1,793	1,741	1,851	1,850	1,864	1,879	1,828	1,777	1,805	1,741
1938	1,769	1,677	1,685	1,706	1,745	1,783	1,792	1,861				

WORK RELIEF

1933	2,557	2,715	2,980	2,990	2,966	2,927	3,011	3,051	2,779	2,824	3,071	1,753
1934	1,636	1,641	1,716									

EMERGENCY WORK RELIEF

1934				2,641	3,131	3,418	3,607	3,915	3,884	3,840	4,034	4,073
1935	4,086	4,082	4,012	3,912	3,975	3,847	3,793	3,335	2,913	2,606	2,296	1,957
1936	1,874	1,795	1,825	1,812	1,925	2,013	2,021	2,061	2,029	1,941	1,999	1,928
1937	1,817	1,818	1,808	1,753	1,859	1,857	1,871	1,889	1,838	1,789	1,818	1,758
1938	1,789	1,696	1,706	1,727	1,766	1,804	1,813	1,881				

CIVIL WORKS ADMINISTRATION

1933												3,284
1934	5,269	5,806	5,143	4,605	3,191	3,427	3,613	3,918				

WORKS PROGRESS ADMINISTRATION AND OTHER WORKS PROGRAMS

1935							3,802	3,367	3,254	3,201	3,267	4,640
1936	4,877	5,025	5,209	5,060	4,897	4,806	4,729	4,762	4,848	4,860	4,985	4,782
1937	4,339	4,223	4,203	4,122	4,196	4,141	3,955	3,669	3,513	3,434	3,480	3,465
1938	3,676	3,746	[1] 4,098	[1] 4,308	[1] 4,445	[1] 4,571	[1] 4,789	[1] 4,946				

[1] Estimated.

Source: Compiled under the direction of the Central Statistical Board from data published by the Civil Service Commission, the Works Progress Administration, the Bureau of Labor Statistics, and other governmental agencies. The figures shown are the cumulative totals corresponding to the lines on the chart.

Exhibit No. 52

[Chart based on following statistical data appears in text on p. 84]

United States business population [1]

[Thousands of concerns]

Year	Total listed concerns[2]	New enterprises [3]	Total discontinued [4]	Year	Total listed concerns[2]	New enterprises [3]	Total discontinued [4]
1900	1,174	272	248	1920	1,821	459	353
1901	1,219	286	248	1921	1,927	483	427
1902	1,253	304	265	1922	1,983	491	478
1903	1,281	305	272	1923	1,996	469	417
1904	1,320	308	268	1924	2,047	477	411
1905	1,357	329	287	1925	2,113	496	451
1906	1,393	334	299	1926	2,158	484	471
1907	1,418	339	302	1927	2,172	483	456
1908	1,448	351	325	1928	2,199	476	463
1909	1,486	360	331	1929	2,213	453	483
1910	1,515	358	348	1930	2,183	423	481
1911	1,525	365	326	1931	2,125	355	404
1912	1,564	369	316	1932	2,077	338	454
1913	1,617	387	348	1933	1,961	345	332
1914	1,655	388	369	1934	1,974	379	319
1915	1,675	380	347	1935	1,983	392	385
1916	1,708	369	344	1936	2,010	408	382
1917	1,733	361	385	1937	2,057	400	351
1918	1,708	307	305	1938	2,102		
1919	1,711	308	197				

[1] Source: Dun & Bradstreet release: Vital Statistics of Industry and Commerce.

[2] Total listed concerns refers to the total of industrial and commercial names in the July issue of the Dun & Bradstreet Reference Book. In general, it excludes financial institutions, including banks, railroads, professional enterprises such as lawyers and doctors, farmers, and others not ordinarily users of commercial credit in the accepted sense. In general, branches are listed, except in the case of chain distributors.

[3] New enterprises refers to names added, but does not include cases arising from change in style or geographical location within the community. The figures refer to calendar years.

[4] Discontinued enterprises includes those which have discontinued operation as a result of any of the following types of action: Assignment, attachment, voluntary petition, involuntary petition, receivership, absconding, compromise, execution, foreclosure, and other voluntary discontinued operations in which there is no official record of loss to creditors. The figures refer to calendar years.

Exhibit No. 53 appears in text on p. 87

Exhibit No. 54

[Chart based on following statistical data appears in text on p. 93]

Number of corporations and partnerships [1]

Year	Partnerships	Corporations	Year	Partnerships	Corporations
1909		262, 490	1923	304, 996	398, 933
1910		270, 202	1924	321, 158	417, 421
1911		288, 352	1925	309, 414	430, 072
1912		305, 336	1926	295, 425	455, 320
1913		316, 909	1927	282, 841	476, 031
1914		[2] 331, 445	1928	272, 127	495, 892
1915		[2] 334, 443	1929	263, 519	509, 436
1916		341, 253	1930	244, 670	518, 736
1917	[3] 31, 701	351, 426	1931	230, 407	516, 404
1918	100, 728	317, 579	1932	216, 712	508, 636
1919	175, 898	320, 198	1933	214, 881	504, 080
1920	240, 767	345, 595	1934	221, 740	[4] 528, 898
1921	259, 359	356, 397	1935	222, 293	533, 631
1922	287, 959	382, 883	1936	237, 367	530, 779

[1] Source: Bureau of Internal Revenue, Treasury Department. For number of partnerships, see Statistics of Income for 1936, pt. 1, p. 32. For corporations, see Statistics of Income for 1935, pt. 2, p. 21, and Preliminary Report of Corporation Income, etc., for 1936, p. 6.

The accompanying information, based on tax returns filed with the Bureau of Internal Revenue, provides the only official data giving an indication of the number of partnerships and corporate enterprises. Owing to the varying provisions of the revenue acts, as well as to other limitations, care should be taken in employing these figures to avoid misinterpretation.

It is emphasized that the 1917 figure for partnerships represents only those domestic partnerships having a net income of more than $6,000, without deducting salaries or interest paid to partners, and foreign partnerships having a net income of $3,000 or over from sources within the United States. According to the tax regulations beginning with the year 1918, every partnership doing business in the United States is required to make a return of income regardless of the amount of its gross or net income. A probable explanation for the sharp increases in the earlier years shown in this table is that all partnerships did not meet this requirement but that a progressively larger number complied from year to year. Hence, it is believed that the figures for partnerships up to about the middle 1920's do not constitute a reliable basis for measuring changes.

With respect to corporations, the privilege of filing consolidated returns was abolished in 1934, except to common carriers by railroad. This change, therefore, is primarily responsible for the increase in the number of corporation returns filed in that year. Approximately 26,900 returns were filed as separate returns in 1934 by corporations for which consolidated returns were filed in 1933. On the other hand, it has been found that certain subsidiary companies, which were included in consolidated returns in 1933, were merged in 1934 to form departments of the parent company and, therefore, were exempt from filing a separate return.

[2] Approximately 32,000 returns related to 1914, but reported in 1915, have been excluded from the figure for 1915 and included with that for 1914.

[3] Figure represents only those partnerships subject to war excess-profits tax.

[4] See last paragraph of Note 1 above.

Exhibit No. 55 appears in text on p. 96

Exhibit No. 56

[Chart based on following statistical data appears in text on p. 97]

Distribution of employees and employers by size of business concern, July–December 1937 [1]

Number of employee wage items on employer's return [2]	Percent of total number of employer returns [3]	Percent of total number of employee wage items [2]	Number of employee wage items on employer's return [2]	Percent of total number of employer returns [3]	Percent of total number of employee wage items [2]
1	25.313	1.2	200 to 299	0.487	5.5
2	15.123	1.4	300 to 399	.241	3.9
3	10.257	1.4	400 to 499	.144	3.0
4	7.214	1.4	500 to 599	.095	2.4
5	5.494	1.3	600 to 699	.065	2.0
6	4.290	1.2	700 to 799	.046	1.6
7	3.538	1.2	800 to 899	.035	1.4
8	2.718	1.0	900 to 999	.030	1.3
9	2.219	.9	1,000 to 1,999	.125	7.8
10 to 19	10.635	6.7	2,000 to 2,999	.032	3.6
20 to 29	4.037	4.5	3,000 to 3,999	.015	2.3
30 to 39	2.199	3.5	4,000 to 4,999	.008	1.7
40 to 49	1.349	2.8	5,000 to 5,999	.005	1.2
50 to 59	.931	2.3	6,000 to 6,999	.003	1.0
60 to 69	.661	2.0	7,000 to 7,999	.003	.9
70 to 79	.508	1.8	8,000 to 8,999	.002	.7
80 to 89	.392	1.5	9,000 to 9,999	.001	.5
90 to 99	.324	1.4	10,000 and over	.011	12.3
100 to 199	1.450	9.4			

[1] Source: Social Security Bulletin, September 1938, No. 9, Wages and Employment Under the Old-age Insurance Program, John J. Corson, table 2, p. 22.

[2] The number of wage items includes a certain amount of duplication, since the name of a person who was engaged by more than one concern during the July–December period would have been listed on the return made by each of his employers.

[3] Number of employer returns represents total number of companies and individual employers reporting to the Bureau of Internal Revenue under title VIII of the Social Security Act.

Exhibit No. 57

[Chart based on following statistical data appears in text on p. 103]

Size of corporations by assets in 1935 [1]*—no consolidated returns except as noted* [2]

Asset classes (in thousands of dollars)	Percent of total corporations submitting returns [3]	Percent of total assets owned by corporations submitting returns	Asset classes (in thousands of dollars)	Percent of total corporations submitting returns [3]	Percent of total assets owned by corporations submitting returns
Under 50	54.7	1.4	1,000 to 5,000	4.4	12.6
50 to 100	14.1	1.4	5,000 to 10,000	.7	6.4
100 to 250	14.0	3.0	10,000 to 50,000	.6	16.2
250 to 500	6.9	3.3	50,000 and over	.2	51.5
500 to 1,000	4.4	4.2			

[1] Source: Statistics of Income for 1935, Pt. 2, Bureau of Internal Revenue, U. S. Treasury Department, p. 16.

[2] The privilege of filing consolidated returns, limited by the Revenue Act of 1934 to affiliated groups of railroad corporations, was exercised for 1935 by 63 such groups. These consolidated returns are included in the table.

[3] The total number of corporations submitting balance sheet data in 1935 was 415,205 out of a total of 477,113 active corporations. However, the total compiled receipts of these corporations submitting balance sheets amounted to $112,098,495,000 out of a total compiled receipts of all corporations of $114,649,717,000.

Exhibit No. 58

[Chart based on following statistical data appears in text on p. 105]

Size of corporations by assets in 1935 [1] excluding financial companies—no consolidated returns except as noted [2]

Asset classes (in thousands of dollars)	Percent of total number of corporations	Percent of total corporate assets	Asset classes (in thousands of dollars)	Percent of total number of corporations	Percent of total corporate assets
Under 50	60.9	2.1	1,000 to 5,000	3.2	13.0
50 to 100	13.7	1.9	5,000 to 10,000	.5	6.6
100 to 250	12.4	3.8	10,000 to 50,000	.4	16.6
250 to 500	5.4	3.8	50,000 and over	.1	47.6
500 to 1,000	3.4	4.6			

[1] Source: Statistics of Income for 1935, Pt. 2, Bureau of Internal Revenue, U. S. Treasury Department, pp. 16 and 82.

These data cover 311,059 corporations with total assets of $158,402,823,000. Financial corporations totaling 104,146, with assets of $144,747,408,000, have been excluded. This group includes banks, stock and bond brokers, real estate and real estate holding companies, insurance companies and other financial companies such as loan companies, clearing houses, other brokers, promoters, investment trusts, and personal holding companies.

[2] The privilege of filing consolidated returns, limited by the Revenue Act of 1934 to affiliated groups of railroad corporations, was exercised for 1935 by 63 such groups. These consolidated returns are included in the table.

Exhibit No. 59

[Chart based on following statistical data appears in text on p. 106]

Assets of large corporations, $5,000,000 and over—percent of industry total in 1935 [1]

[No consolidated returns except as noted [2]]

Branch of activity	Percent of total corporate assets	Percent of total number of corporations	Branch of activity	Percent of total corporate assets	Percent of total number of corporations
Transportation and other public utilities	92.7	4.6	Trade	34.8	0.3
Finance	77.7	2.6	Service	30.5	.6
Manufacturing	65.8	1.5	Agriculture	28.4	.7
Mining and quarrying	64.8	2.5	Construction	25.1	.2

[1] Source: Statistics of Income for 1935, pt. 2, Bureau of Internal Revenue, U. S. Treasury Department, pp. 66-83. The corporations on which this table is based number 5,902, with assets of $224,558,936,000, out of a total of 414,273 corporations with total assets of $303,059,681,000. Figures include both corporations with net income and those with no net income. Corporations whose nature of business was not reported are excluded. These number 932, with total assets of $90,549,000.

[2] The privilege of filing consolidated returns, limited by the Revenue Act of 1934 to affiliated groups of railroad corporations, was exercised for 1935 by 63 such groups. These consolidated returns are included in the table.

EXHIBIT No. 60

[Chart based on following statistical data appears in text on p. 107]

Assets of large manufacturing corporations of $5,000,000 and over—percent of industry total, 1935 [1]

[No consolidated returns]

Industry	Percent of total corporate assets	Percent of total number of corporations	Industry	Percent of total corporate assets	Percent of total number of corporations
Tobacco products	91.7	5.9	Stone, clay, and glass products	55.9	1.8
Chemicals and allied products	85.7	2.7	Printing, publishing, and allied industries	42.6	.7
Rubber products	80.0	4.3	Textiles and their products	38.7	1.0
Metal and metal products	73.5	2.0	Forest products	38.4	1.0
Paper and pulp products	62.1	3.5	Liquor and beverages	28.6	1.0
Food and kindred products	60.0	1.2			

[1] Source: Statistics of Income for 1935, pt. 2, Bureau of Internal Revenue, U. S. Treasury Department, pp. 68 to 78. These statistics comprise 1,190 corporations with assets of $33,712,400,000 out of a total of 78,167 corporations in these manufacturing industries, with assets of $50,328,783,000. Corporations with both net income and no net income are included.

EXHIBIT No. 61 appears in text on p. 119

EXHIBIT No. 62

[Chart based on following statistical data appears in text on p. 120]

New private residential and nonresidential building activity in the United States, 1915–38 [1]

Year	Residential [2]	Nonresidential [3]	Year	Residential [2]	Nonresidential [3]
1915	$990,000,000	$424,000,000	1927	$4,289,000,000	$2,414,000,000
1916	1,110,000,000	639,000,000	1928	3,961,000,000	2,425,000,000
1917	940,000,000	712,000,000	1929	3,424,000,000	2,432,000,000
1918	720,000,000	638,000,000	1930	2,195,000,000	1,867,000,000
1919	1,600,000,000	956,000,000	1931	1,396,000,000	1,110,000,000
1920	1,610,000,000	1,743,000,000	1932	641,000,000	542,000,000
1921	1,760,000,000	1,329,000,000	1933	314,000,000	362,000,000
1922	2,833,000,000	1,373,000,000	1934	272,000,000	410,000,000
1923	3,757,000,000	1,560,000,000	1935	533,000,000	460,000,000
1924	4,300,000,000	1,528,000,000	1936	1,101,000,000	625,000,000
1925	4,584,000,000	1,938,000,000	1937	1,393,000,000	894,000,000
1926	4,591,000,000	2,381,000,000	1938	[4] 1,285,000,000	[4] 745,000,000

[1] Source: Estimates of Bureau of Foreign and Domestic Commerce. (See "Construction Activity in the United States, 1915–37", Domestic Commerce Series, No. 99.)

[2] New private residential building activity from 1920 to 1938 was estimated primarily from the building permit data for principal cities in the United States, compiled by the Bureau of Labor Statistics. Suitable allowances were made for incomplete coverage, lapses, underreporting of value, and for the differences in timing between the issuance of a permit and actual construction in terms of employment and the delivery of materials. Estimates for the years 1915 to 1920, inclusive, were projected back on the basis of the year-to-year changes indicated by the dollar value of residential building contracts awarded in 27 eastern States reported by the F. W. Dodge Corporation. The estimates exclude both expenditures for residential construction in farm areas and all public residential work, and also expenditures for alteration, repairs, and maintenance.

[3] The estimates for private nonresidential building construction of various types are based primarily upon statistics of contracts awarded reported by the F. W. Dodge Corporation with suitable allowances for incomplete geographic and day-labor coverage, and for the differences in timing between the commencement of construction, as indicated by contracts awarded, and the actual construction work. The following are the types of nonresidential building included: Commercial, factory, religious and memorial, educational, hospital and institutional, and social and recreational. The estimates do not include expenditures for public nonresidential construction, for private nonresidential building by utilities, for nonresidential structures erected in farm areas, and all repair and maintenance expenditures.

[4] Preliminary estimate.

EXHIBIT No. 63

[Chart based on following statistical data appears in text on p. 121]

New railroad and highway construction activity in the United States, 1915–37 [1]

Year	Railroad [2]	Highway [3]	Year	Railroad [2]	Highway [3]
1915	$241,000,000	$298,000,000	1927	$462,000,000	$1,190,000,000
1916	281,000,000	308,000,000	1928	433,000,000	1,270,000,000
1917	361,000,000	313,000,000	1929	510,000,000	1,248,000,000
1918	365,000,000	288,000,000	1930	521,000,000	1,481,000,000
1919	266,000,000	415,000,000	1931	292,000,000	1,323,000,000
1920	184,000,000	640,000,000	1932	139,000,000	916,000,000
1921	184,000,000	840,000,000	1933	94,000,000	675,000,000
1922	176,000,000	851,000,000	1934	128,000,000	821,000,000
1923	361,000,000	783,000,000	1935	116,000,000	622,000,000
1924	365,000,000	951,000,000	1936	149,000,000	876,000,000
1925	393,000,000	1,056,000,000	1937	199,000,000	811,000,000
1926	491,000,000	1,039,000,000			

[1] Source: Estimates of Bureau of Foreign and Domestic Commerce. (See "Construction Activity in the United States, 1915–37", Domestic Commerce Series, No. 99.)

[2] Based on reported expenditures of class I railroads for roadway and structures compiled by the Bureau of Railway Economics, from 1922 to 1937. Includes expenditures for main track, yards, and sidings; heavier rail and additional ballast; shop and engine houses; station and office buildings, and other station facilities; bridges, trestles, and culverts; signals and interlockers; and all other improvements. The total gross expenditures for roadway and structure were adjusted to exclude expenditures for land, and increased to allow for expenditures by other railroads in the United States not included under this classification. Estimates for the years 1915 to 1921, inclusive, were made, using the year-to-year changes in the miles of new track completed, adjusted by an index of the cost of construction compiled by the Interstate Commerce Commission. The totals in all years do not include expenditures by the railroads for maintenance of way and structures.

[3] Includes the expenditures of States, counties, and cities, for new highways, streets, and roads. The estimates of State and county highway expenditures were based mainly on reports of the Bureau of Public Roads of the U. S. Department of Agriculture. The city expenditures for roads and streets were derived from the Financial Statistics of Cities, published by the Bureau of the Census. The estimates include all Federal-aid contributions to the States for highway work, but exclude expenditures for maintenance. The work-relief expenditures in recent years on highway, road, and street projects have also been excluded.

EXHIBIT No. 64

[Chart based on following statistical data appears in text on p. 122]

Production of steel castings for 9 plants, June each year, 1927–38 [1]

[June 1927=100]

Year	Plant No. 1	Plant No. 2	Plant No. 3	Plant No. 4	Plant No. 5	Plant No. 6	Plant No. 7	Plant No. 8	Plant No. 9	Entire industry
1927	100	100	100	100	100	100	100	100	100	1
1928	112	79	176	156	125	62	121	108	184	1
1929	106	111	195	227	151	71	119	145	261	1
1930	112	79	236	150	110	80	108	50	182	1
1931	106	36	157	35	66	28	43	20	62	4
1932	0	25	57	21	23	11	12	9	2	1
1933	31	39	26	148	32	19	40	59	20	3
1934	100	29	26	96	44	111	50	59	15	5
1935	25	21	60	181	44	57	7	13	7	2
1936	69	32	107	192	88	59	10	75	184	7
1937	125	68	76	227	137	121	58	128	234	10
1938	56	25	48	82	50	61	5	33	11	2

[1] Source: Bureau of the Census, U. S. Department of Commerce.

EXHIBIT No. 65

[Chart based on following statistical data appears in text on p. 123]

Portland cement production for 9 mills, June each year, 1925–38 [1]

[June 1925=100]

Year	Plant No. 1	Plant No. 2	Plant No. 3	Plant No. 4	Plant No. 5	Plant No. 6	Plant No. 7	Plant No. 8	Plant No. 9	Entire industry
1925	100	100	100	100	100	100	100	100	100	100
1926	106	113	83	148	97	134	115	104	64	110
1927	107	111	83	166	98	143	87	104	107	112
1928	125	103	94	149	93	143	109	100	58	114
1929	84	157	62	123	79	133	91	84	57	109
1930	76	153	59	148	108	104	101	116	68	112
1931	81	147	21	56	99	76	105	149	59	92
1932	8	143	17	64	65	112	64	58	Idle	52
1933	45	69	26	53	36	118	Idle	39	Idle	51
1934	50	96	33	110	48	126	71	93	Idle	57
1935	48	66	35	94	44	110	67	Idle	58	57
1936	Idle	79	50	122	55	173	78	112	47	74
1937	45	86	36	123	55	155	65	119	75	73
1938	49	66	39	128	55	236	51	86	Idle	69

[1] Source: Bureau of the Census, U. S. Department of Commerce.

EXHIBIT No. 66

[Chart based on following statistical data appears in text on p. 124]

Coke production for 9 plants, June each year, 1925–38 [1]

[June 1925=100]

Year	Plant No. 1	Plant No. 2	Plant No. 3	Plant No. 4	Plant No. 5	Plant No. 6	Plant No. 7	Plant No. 8	Plant No. 9	Entire industry
1925	100	100	100	100	100	100	100	100	100	100
1926	102	113	115	84	128	106	100	111	90	115
1927	100	108	190	100	124	106	87	108	163	114
1928	143	131	118	98	127	101	90	150	144	126
1929	144	161	139	85	121	102	117	165	165	143
1930	133	127	147	58	102	104	86	152	140	125
1931	68	80	210	37	50	106	79	115	106	86
1932	22	43	177	22	22	79	49	76	54	49
1933	73	84	200	2	17	90	72	42	36	71
1934	91	104	196	26	51	106	74	75	46	95
1935	62	88	185	34	52	101	72	63	52	82
1936	137	127	184	59	48	100	100	73	62	117
1937	151	181	217	105	55	104	92	113	80	128
1938	43	90	178	24	24	103	74	56	60	66

[1] Source: The Bureau of Mines, U. S. Department of the Interior.

Exhibit No. 67

[Chart based on following statistical data appears in text on p. 125]

Flour production for 9 mills, June each year, 1927–38 [1]

[June 1927=100]

Year	Plant No. 1	Plant No. 2	Plant No. 3	Plant No. 4	Plant No. 5	Plant No. 6	Plant No. 7	Plant No. 8	Plant No. 9	Entire industry
1927	100	100	100	100	100	100	100	100	100	100
1928	87	18	44	38	307	85	96	105	82	91
1929	93	79	72	47	274	65	78	112	87	105
1930	116	86	66	54	251	86	64	101	100	102
1931	146	95	67	21	42	128	80	105	87	91
1932	246	124	67	41	444	64	75	82	91	92
1933	164	92	51	45	223	86	92	97	78	101
1934	191	107	64	39	250	91	78	82	83	88
1935	194	93	68	59	125	57	56	81	66	87
1936	192	133	123	59	89	55	66	88	71	92
1937	117	68	66	53	253	48	74	103	81	90
1938	165	156	67	65	178	43	77	100	77	99

[1] Source: Bureau of the Census, U. S. Department of Commerce.

Exhibit No. 68

[Chart based on following statistical data appears in text on p. 127]

Employment for 15 plants in the rubber tire and tube industry, June each, year 1923–36 [1]

[Average 1923–25=100]

Year	Plant No. 1	Plant No. 2	Plant No. 3	Plant No. 4	Plant No. 5	Plant No. 6	Plant No. 7	Plant No. 8
1923	91.4	115.1	91.0	97.4	104.0	104.9	105.7	114.5
1924	84.9	96.7	108.9	85.8	110.9	99.2	81.6	92.4
1925	122.5	136.1	105.7	113.7	79.1	106.9	137.7	111.2
1926	117.0	232.7	125.0	234.3	90.9	83.3	123.7	97.1
1927	140.6	234.5	147.8	248.2	85.1	59.3	167.3	82.1
1928	131.6	226.6	122.3	313.2	60.1	60.0	179.9	91.7
1929	156.0	357.5	142.2	150.8	58.3	69.9	254.5	73.9
1930	128.5	236.8	94.5	174.0	56.9	50.2	217.8	61.9
1931	103.9	213.8	80.3	143.8	55.9	49.6	190.9	46.7
1932	95.9	169.3	80.6	243.6	56.6	50.3	188.5	32.1
1933	106.0	257.5	78.9	222.7	66.8	64.7	155.2	38.0
1934	132.4	334.8	68.7	220.4	79.4	71.6	257.8	54.0
1935	115.5	215.3	47.9	192.5	82.0	51.0	172.4	48.7
1936	119.8	210.2	60.7	287.6	78.0	60.9	245.0	34.8

Year	Plant No. 9	Plant No. 10	Plant No. 11	Plant No. 12	Plant No. 13	Plant No. 14	Plant No. 15
1923	84.4	97.5	105.6	81.1	98.7	99.7	64.1
1924	108.1	103.7	89.5	109.4	82.7	85.8	82.1
1925	116.1	90.0	114.4	132.8	136.1	131.2	139.0
1926	104.3	61.6	100.5	118.5	108.1	109.7	111.1
1927	116.5	57.6	107.9	144.0	133.8	131.2	109.1
1928	114.6	64.6	110.7	155.3	133.6	129.7	141.5
1929	126.8	53.4	149.4	204.2	154.8	179.6	148.5
1930	72.6	33.3	146.7	109.1	123.3	157.2	123.8
1931	87.1	24.8	131.4	174.6	96.6	118.6	94.2
1932	88.3	26.5	119.9	195.8	88.3	124.3	98.2
1933	179.9	22.4	143.9	241.9	83.1	115.9	122.9
1934	207.4	22.2	198.3	207.0	118.6	108.3	132.5
1935	216.6	18.5	180.3	222.3	112.6	50.0	101.5
1936	214.3	-------	-------	225.7	111.6	82.8	71.4

[1] Source: Bureau of Labor Statistics, U. S. Department of Labor.

Exhibit No. 69

FROM THE NATIONAL RECOVERY ADMINISTRATION, REPORT OF THE PRESIDENT'S COMMITTEE OF INDUSTRIAL ANALYSIS, FEBRUARY 17, 1937, PAGES 204 AND 205

The differences which most frequently gave rise to conflict are recapitulated in the following list:

Difference in size:
- Large versus small concerns.
- Buyers in large quantities versus buyers in small quantities.

Difference in degree of interest in the market:
- Permanent versus temporary enterprises.
- Concerns primarily engaged in a given market versus concerns operating there as a side line.

Difference in cost:
- High cost versus low cost concerns.
- Concerns with high fixed cost versus those with high variable cost.
- Concerns located at basing points versus those located elsewhere.
- Concerns with access to water transport versus those with access to rail transport only.

Difference in method of operation:
- Integrated versus nonintegrated concerns.
- Single-shift versus multiple-shift concerns.
- Concerns selling direct versus concerns using distributors.
- Commercial enterprises versus cooperatives.

Difference in the character of the market served:
- Concerns producing for export versus those producing for domestic sale.
- Concerns with active demand versus those with less active demand.
- Concerns whose demand is usually seasonal versus concerns with normal demand.
- Concerns producing on contract versus those producing for later sale.

Difference in service:
- Full service enterprises versus partial service enterprises.
- Cash and carry enterprises versus call and deliver enterprises.
- Concerns selling standard products versus those selling specialties or substandard products.

Difference in prestige:
- Concerns with consumer good will versus those which lack it.
- Concerns selling on a quality basis versus those selling on a price basis.
- Concerns which undertake extensive sales effort versus those which do not.

Exhibit No. 70 appears in text on p. 129

Exhibit No. 71

[Chart based on following statistical data appears in text on p. 130]

Independent retail store population,[1] 1915 and 1935, 32 county-seat towns

	Grocery stores	General and department stores	Drug stores	Men's clothing stores	Dry-goods stores	Hardware stores	Shoe stores	Women's-wear stores
1915	671	217	143	128	124	110	88	22
1935	898	118	138	87	55	80	59	73
Survivors	67	16	36	16	15	24	10	1

[1] Source: Dun & Bradstreet.

Exhibit No. 72

[Chart based on following statistical data appears in text on p. 132]

Seasonality of industrial operations (indexes for nine industries)

Industry	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Pig iron	94	102	106	107	108	102	97	98	98	100	98	90
Steel ingots	98	106	107	108	106	97	93	98	97	99	98	93
Cement	58	59	72	100	122	128	121	123	121	115	102	79
Cotton consumption	104	108	105	103	102	95	89	91	99	103	104	97
Boots and shoes	96	108	111	105	98	90	97	110	112	103	87	83
Cigarettes	102	95	91	93	102	111	112	105	107	99	94	89
Bituminous coal	110	116	120	80	84	86	88	89	101	107	110	109
Anthracite	109	118	102	107	106	96	78	72	101	104	101	106
Crude petroleum	98	99	101	102	103	102	101	101	100	99	97	97

Source: Division of Research and Statistics, Board of Governors of the Federal Reserve System. These are the seasonal adjustment factors calculated by The Board of Governors of the Federal Reserve System for use in the construction of the indexes of industrial production.

Exhibit No. 73

[Summary of Analysis of Trade Practice Provisions in N. R. A. Codes]

Any careful outline of these attempted trade-practice controls would make a volume. By way of merely suggesting the bewildering ramifications of the experiment, I have jotted down some of the major purposes and noted either the nature or the number of types of provisions aimed at their accomplishment (many of the types were themselves finely subdivided).

I. Production and capacity control provisions.
   1. Limitations on machine and plant hours.
   2. Restrictions on productive capacity.
   3. Limitation on production through quotas.
   4. Limitation on inventories.

II. Minimum price provision.
   1. Prohibition of destructive price cutting.
   2. Permitting establishment of minimum prices in cases of emergency only.
   3. Minimum prices set forth in code or code authority empowered to establish.
   4. Prohibitions against selling below cost—with innumerable supporting regulations.
   5. Provisions regulating price differentials between classes of products—with five sets of variations.

III. Open price provisions—with 11 alternative approaches or safeguards.

IV. Restriction of indirect price concessions:
   17 restrictions on time of buyers' payments.
   51 restrictions on guarantees, allowances, options, and similar buyers' privileges.
   18 restrictions on supply of additional bargain goods.
   21 restrictions on service to buyers.
   18 restrictions on financial assistance to buyers.
   9 restrictions on shipment concession.
   5 restrictions on commission concessions.
   16 restrictions on payments for buyers' services, as allowances, etc.
   2 restrictions on accepting competitors materials from buyer
   12 restrictions on sale of substandard or obsolete goods.
   13 restrictions on concessions beyond agreement.
   11 restrictions on forms of payment concealing concessions.
   38 restrictions on selling agreements, invoices, etc., concealing concessions.
   9 mandatory forms of agreement for prevention of concealed concessions.
   11 restrictions on granting of concessions to suppliers.
   4 restrictions on acceptance of concessions.

V. Provisions designed to preserve or modify channels of distribution:
  5 restricting customer classes.
  4 defining customer classes.
  5 restrictions on trade differentials.
  9 restrictions on quantity discounts.
  7 resale price maintenance provisions.
  11 prohibition of discriminatory prices.
  5 restrictions on nonobservers.
  17 provisions relating to controlled sales representatives.
  13 miscellaneous.
VI. Seven provisions to preserve or modify geographical relationship (as basing points).
VII. Eleven regulations of designs or identifications.
VIII. Standardization, simplification, and labeling:
  30 standardization particulars.
  34 labeling particulars.
  18 method particulars.
IX. Limiting coercive and predacious devices:
  10 coercive devices by members as sellers.
  5 coercive devices by members as buyers.
  25 predacious devices used against competitors.
X. Limiting deception and misrepresentation:
  44 in relations with customers.
  12 in relations with others.
XI. Regulating bidding and awarding practices:
  24 making original offers final.
  3 to eliminate waste in bidding.
  5 special.
XII. Other provisions.

EXHIBIT No. 74 appears in text on p. 138

EXHIBIT No. 75

[Chart based on following statistical data appears in text on p. 141]

Production of wagons, buggies, passenger cars, and trucks, 1900–37

Year	Passenger cars [1]	Trucks [1]	Buggies [2]	Wagons [3]
1900	4,192		909,798	567,184
1901	7,000			
1902	9,000			
1903	11,235			
1904	22,419	411	940,120	637,666
1905	24,550	450		
1906	33,500	500		
1907	43,300	700		
1908	63,500	1,500		
1909	127,731	3,255	845,562	622,571
1910	181,000	6,000		
1911	199,319	10,681		
1912	356,000	22,000		
1913	461,500	23,500		

[1] Source: Survey of Current Business, Bureau of Foreign and Domestic Commerce, United States Department of Commerce, for the years 1913 to 1937, inclusive. Automobile Facts and Figures, Automobile Manufacturers Association, 1938, p. 4, for the years 1900 to 1912, inclusive.

Data on automobile production in the United States represent manufacturers' sales, commonly referred to as production. The statistics comprise the output of all members of the Automobile Manufacturers Association as well as of certain other manufacturers reporting directly to the Bureau of the Census. Included are foreign assemblies from parts made in the United States and reported as complete units or vehicles. The figures for passenger cars include taxicabs. The figures for trucks include ambulances, funeral cars, fire apparatus, street sweepers, and busses.

[2] Source: Census of Manufactures, Bureau of the Census, United States Department of Commerce. Figures for buggies include buggies, sulkies, and hacks. No figure appears for 1933 because data were too incomplete.

[3] Source: Census of Manufactures, Bureau of the Census, United States Department of Commerce. Figures for wagons include farm wagons and trucks, two-wheeled carts, and commercial wagons (business, mail, patrol, and ambulances). Handcarts and pushcarts are excluded. Lunch wagons are not included in 1931 and 1935. The 1933 census figure has been corrected by 8,355 for estimated number of wagons not reported.

Production of wagons, buggies, passenger cars, and trucks, 1900–37—Continued

Year	Passenger cars	Trucks	Buggies	Wagons
1914	543, 679	25, 375	551, 685	551, 105
1915	895, 930	74, 000		
1916	1, 525, 578	92, 130		
1917	1, 745, 792	128, 157		
1918	943, 436	227, 250		
1919	1, 657, 652	275, 943	25, 143	413, 536
1920	1, 905, 560	321, 789		
1921	1, 442, 007	154, 816	35, 849	79, 795
1922	2, 274, 185	269, 991		
1923	3, 624, 717	409, 295	59, 353	223, 972
1924	3, 185, 881	416, 659		
1925	3, 735, 171	530, 659	21, 734	199, 043
1926	3, 783, 987	516, 947		
1927	2, 936, 533	464, 793	7, 795	116, 428
1928	3, 815, 417	543, 342		
1929	4, 587, 400	771, 020	3, 597	109, 100
1930	2, 784, 745	571, 241		
1931	1, 973, 090	416, 648	711	28, 894
1932	1, 135, 491	235, 187		
1933	1, 573, 512	346, 545		53, 533
1934	2, 177, 919	575, 192		
1935	3, 252, 244	694, 600	1, 010	99, 753
1936	3, 669, 528	784, 587		
1937	3, 915, 889	893, 085		

Exhibit No. 76

[Chart based on following statistical data appears in text on p. 142]

Production of fuels, 1870–1937

Year	Petorleum (barrels)[1]	Natural gas (cubic feet)[2]	Bituminous coal (short tons)[3]	Anthracite (short tons)[4]
1870	5, 300, 000		17, 400, 000	15, 700, 000
1871	5, 200, 000		27, 500, 000	19, 300, 000
1872	6, 300, 000		27, 200, 000	24, 200, 000
1873	9, 900, 000		31, 400, 000	26, 200, 000
1874	10, 900, 000		27, 800, 000	24, 800, 000
1875	8, 800, 000		29, 900, 000	22, 500, 000
1876	9, 100, 000		30, 500, 000	22, 800, 000
1877	13, 400, 000		34, 800, 000	25, 700, 000
1878	15, 400, 000		36, 200, 000	21, 700, 000
1879	19, 900, 000		37, 900, 000	30, 200, 000
1880	26, 300, 000		42, 800, 000	28, 600, 000
1881	27, 700, 000		54, 000, 000	31, 900, 000
1882	30, 400, 000	3, 000, 000, 000	68, 400, 000	35, 100, 000
1883	23, 500, 000	8, 000, 000, 000	77, 300, 000	38, 500, 000
1884	24, 200, 000	24, 000, 000, 000	83, 000, 000	37, 200, 000
1885	21, 900, 000	76, 000, 000, 000	72, 800, 000	38, 300, 000
1886	28, 100, 000	157, 000, 000, 000	74, 600, 000	39, 000, 000
1887	28, 300, 000	241, 000, 000, 000	88, 600, 000	42, 100, 000

[1] Source: Mineral Resources of the United States, Bureau of Mines, U. S. Department of Commerce, 1929, pt. II, p. 470, for the years 1870 to 1929, inclusive; Minerals Yearbook, Bureau of Mines, U. S. Department of the Interior, 1937, p. 1008, for the years 1930 to 1935, inclusive; ibid., 1938, p. 895, for the years 1936 and 1937. Production of crude petroleum is expressed in barrels of 42 United States gallons. Previous to 1924 the data were compiled by the U. S. Geological Survey. Prior to 1919 producers' stocks were not taken into account in the figures of production and in the statistical reports published by the Geological Survey in the years 1914 to 1917, inclusive, this fact was indicated by the use of the terms "marketed production" and "petroleum marketed."

[2] Source: Minerals Yearbook, Bureau of Mines, U. S. Department of the Interior, 1937, p. 1062, for the years 1906 to 1935, inclusive; ibid., 1938, p. 907, for the years 1936 and 1937. Estimates for the years 1882 to 1905, inclusive, were obtained from Mr. F. G. Tryon of the Bituminous Coal Commission. These data are for natural gas produced in the United States and delivered to consumers. The 1937 figure is final but hitherto unpublished. The estimates prepared by Mr. Tryon were calculated from contemporary estimates of the quantity of coal displaced by gas or of the value of gas sold.

[3] Source: Mineral Resources of the United States, U. S. Geological Survey, U. S. Department of the Interior, 1918, pt. II, p. 711, for the years 1870 to 1918, inclusive; Mineral Resources of the United States, Bureau of Mines, U. S. Department of Commerce, 1929, pt. II, p. 701, for the years 1919 to 1929, inclusive; Minerals Yearbook, Bureau of Mines, U. S. Department of the Interior, 1937, p. 814, for the years 1930 to 1935, inclusive; ibid., 1938, p. 695, for the years 1936 and 1937. Statistics of production are expressed in net or short tons of 2,000 pounds. The bituminous coal production figures include anthracite and semianthracite produced outside Pennsylvania and the production of lignite. Generally the figures include all known operations that produce more than 1,000 tons per year.

[4] Source: Same as for bituminous coal. Statistics of production in net or short tons of 2,000 pounds

Production of fuels, 1870–1937—Continued

Year	Petroleum (barrels)	Natural gas (cubic feet)	Bituminous coal (short tons)	Anthracite (short tons)
1888	27, 600, 000	343, 000, 000, 000	102, 000, 000	46, 600, 000
1889	35, 200, 000	250, 000, 000, 000	95, 700, 000	45, 500, 000
1890	45, 800, 000	239, 000, 000, 000	111, 300, 000	46, 500, 000
1891	54, 300, 000	183, 000, 000, 000	117, 900, 000	50, 700, 000
1892	50, 500, 000	189, 000, 000, 000	126, 900, 000	52, 500, 000
1893	48, 400, 000	149, 000, 000, 000	128, 400, 000	54, 000, 000
1894	49, 300, 000	144, 000, 000, 000	118, 800, 000	51, 900, 000
1895	52, 900, 000	137, 000, 000, 000	135, 100, 000	58, 000, 000
1896	61, 000, 000	140, 000, 000, 000	137, 600, 000	54, 300, 000
1897	60, 500, 000	149, 000, 000, 000	147, 600, 000	52, 600, 000
1898	55, 400, 000	173, 000, 000, 000	166, 600, 000	53, 400, 000
1899	57, 100, 000	223, 000, 000, 000	193, 300, 000	60, 400, 000
1900	63, 600, 000	237, 000, 000, 000	212, 300, 000	57, 400, 000
1901	69, 400, 000	264, 000, 000, 000	225, 800, 000	67, 500, 000
1902	88, 800, 000	281, 000, 000, 000	260, 200, 000	41, 400, 000
1903	100, 500, 000	298, 000, 000, 000	282, 700, 000	74, 600, 000
1904	117, 100, 000	310, 000, 000, 000	278, 700, 000	73, 200, 000
1905	134, 700, 000	351, 000, 000, 000	315, 100, 000	77, 700, 000
1906	126, 500, 000	389, 000, 000, 000	342, 900, 000	71, 300, 000
1907	166, 100, 000	407, 000, 000, 000	394, 800, 000	85, 600, 000
1908	178, 500, 000	402, 000, 000, 000	332, 600, 000	83, 300, 000
1909	183, 200, 000	481, 000, 000, 000	379, 700, 000	81, 100, 000
1910	209, 600, 000	509, 000, 000, 000	417, 100, 000	84, 500, 000
1911	220, 400, 000	513, 000, 000, 000	405, 900, 000	90, 500, 000
1912	222, 900, 000	562, 000, 000, 000	450, 100, 000	84, 400, 000
1913	248, 400, 000	592, 000, 000, 000	478, 400, 000	91, 500, 000
1914	265, 800, 000	592, 000, 000, 000	422, 700, 000	90, 800, 000
1915	281, 100, 000	629, 000, 000, 000	442, 600, 000	39, 000, 000
1916	300, 800, 000	753, 000, 000, 000	502, 500, 000	87, 600, 000
1917	335, 300, 000	795, 000, 000, 000	551, 800, 000	99, 600, 000
1918	355, 900, 000	721, 000, 000, 000	579, 400, 000	98, 800, 000
1919	378, 400, 000	746, 000, 000, 000	465, 900, 000	88, 100, 000
1920	442, 900, 000	798, 000, 000, 000	568, 700, 000	89, 600, 000
1921	472, 200, 000	662, 000, 000, 000	415, 900, 000	90, 500, 000
1922	557, 500, 000	763, 000, 000, 000	422, 300, 000	54, 700, 000
1923	732, 400, 000	1, 007, 000, 000, 000	564, 600, 000	93, 300, 000
1924	713, 900, 000	1, 142, 000, 000, 000	483, 700, 000	87, 900, 000
1925	763, 700, 000	1, 189, 000, 000, 000	520, 100, 000	61, 800, 000
1926	770, 900, 000	1, 313, 000, 000, 000	573, 400, 000	84, 400, 000
1927	901, 100, 000	1, 445, 000, 000, 000	517, 800, 000	80, 100, 000
1928	901, 500, 000	1, 568, 000, 000, 000	500, 700, 000	75, 300, 000
1929	1, 007, 300, 000	1, 918, 000, 000, 000	535, 000, 000	73, 800, 000
1930	898, 000, 000	1, 943, 000, 000, 000	467, 500, 000	69, 400, 000
1931	851, 100, 000	1, 686, 000, 000, 000	382, 100, 000	59, 600, 000
1932	785, 200, 000	1, 556, 000, 000, 000	309, 700, 000	49, 900, 000
1933	905, 700, 000	1, 555, 000, 000, 000	333, 600, 000	49, 500, 000
1934	908, 100, 000	1, 771, 000, 000, 000	359, 400, 000	57, 200, 000
1935	996, 600, 000	1, 917, 000, 000, 000	372, 400, 000	52, 200, 000
1936	1, 099, 700, 000	2, 168, 000, 000, 000	439, 100, 000	54, 600, 000
1937	1, 277, 700, 000	2, 447, 000, 000, 000	[1] 442, 500, 000	[1] 51, 900, 000

[1] Preliminary.

Exhibit No. 77

[Chart based on following statistical data appears in text on p. 143]

Production and imports of sugar, 1870–1937

Year	Beet sugar production in continental United States [1]	Cane sugar production in continental United States [2]	Sugar shipments to continental United States [3]
	Short tons	*Short tons*	*Short tons*
1870	500	89,000	634,000
1871	500	78,000	749,000
1872	600	67,000	772,000
1873	800	54,000	841,000
1874	100	71,000	893,000
1875	100	86,000	739,000
1876	100	100,000	826,000
1877	100	80,000	766,000
1878	200	125,000	912,000
1879	1,400	89,000	909,000
1880	600	143,000	969,000
1881	600	86,000	992,000
1882	600	159,000	1,068,000
1883	600	151,000	1,374,000
1884	1,100	113,000	1,356,000
1885	700	151,000	1,339,000
1886	1,000	96,000	1,502,000
1887	300	188,000	1,337,000
1888	2,200	172,000	1,378,000
1889	2,600	151,000	1,457,000
1890	4,100	249,000	1,739,000
1891	6,400	185,000	1,776,000
1892	14,500	249,000	1,879,000
1893	24,200	305,000	2,148,000
1894	24,100	365,000	1,778,000
1895	35,000	272,000	1,947,000
1896	45,000	322,000	2,439,000
1897	48,400	354,000	1,338,000
1898	38,900	284,000	1,987,000
1899	87,500	161,000	2,007,000
1900	92,100	312,000	2,399,000
1901	197,500	364,000	1,965,000
1902	233,700	373,000	2,607,000
1903	257,400	278,000	2,339,000
1904	259,000	415,000	2,391,000
1905	334,800	391,000	2,566,000
1906	517,500	272,000	2,806,000
1907	496,100	394,000	2,456,000
1908	455,700	414,000	2,849,000
1909	548,000	332,000	2,863,000
1910	546,000	355,000	2,789,000
1911	641,000	361,000	3,020,000
1912	741,000	163,000	3,293,000
1913	785,000	301,000	3,400,000
1914	773,000	247,000	3,625,000
1915	935,000	139,000	3,791,000
1916	878,000	311,000	3,732,000
1917	819,000	246,000	3,321,000
1918	814,000	284,000	3,874,000
1919	777,000	125,000	4,789,000
1920	1,165,000	180,000	4,305,000
1921	1,091,000	334,000	5,282,000
1922	722,000	302,000	5,303,000
1923	943,000	168,000	4,712,000
1924	1,166,000	90,000	5,577,000
1925	977,000	142,000	5,877,000

[1] Source: Agriculture Yearbook, U. S. Department of Agriculture, 1923, p. 845, for the years 1870 to 1908, inclusive: The World Sugar Situation, Bureau of Agricultural Economics, U. S. Department of Agriculture, 1938, p. 27, for the years 1909 to 1937, inclusive. Figures are production of raw beet sugar in crop years beginning in July of the year shown. Beet sugar is reported as refined and reduced to a raw basis by multiplying by 1.07. As published, the 1870–1908 series was on a refined basis and the 1909–37 series on a raw basis. The 1937 figure is preliminary.

[2] Source: Same as for beet sugar. Figures are production of raw cane sugar in crop years beginning in July of years shown. Figures from 1870 to 1923, inclusive, are for Louisiana and Texas; from 1924 to 1927, inclusive, Louisiana only; from 1928 to date, Louisiana and Florida.

[3] Source: Agriculture Yearbook, U. S. Department of Agriculture, 1924, p. 802, for the years 1870 to 1921, inclusive. Agricultural Statistics, U. S. Department of Agriculture, 1938, p. 124, for the years 1922 to 1936, inclusive. Sugar shipments to United States are given in terms of raw sugar and are on a fiscal-year basis for comparability with domestic production. This series is the sum of sugar "brought in from insular possessions" and "net imports of sugar." These shipments are chiefly cane sugar; beet sugar has never exceeded one-half of 1 percent of the total.

Production and imports of sugar, 1870–1937—Continued

Year	Beet sugar production in continental United States	Cane sugar production in continental United States	Sugar shipments to continental United States
	Short tons	*Short tons*	*Short tons*
1926	960,000	48,000	5,658,000
1927	1,170,000	72,000	5,467,000
1928	1,135,000	136,000	6,091,000
1929	1,089,000	218,000	5,201,000
1930	1,293,000	215,000	5,020,000
1931	1,237,000	184,000	5,133,000
1932	1,452,000	265,000	4,786,000
1933	1,757,000	250,000	4,591,000
1934	1,211,000	267,000	5,083,000
1935	1,268,000	383,000	5,059,000
1936	1,395,000	437,000	4,843,000
1937	1,374,000	460,000	

Exhibit No. 78

[Chart based on following statistical data appears in text on p. 144]

Textile fiber consumption by United States manufacturers 1870–1937

Year	Total rayon fiber consumption (pounds) [1]	Cotton (bales) [2]	Net raw silk imports (pounds) [3]	Wool consumption (pounds) [4]
1870		800,000	700,000	214,400,000
1871		1,000,000	1,300,000	245,400,000
1872		1,100,000	1,200,000	262,100,000
1873		1,100,000	800,000	209,900,000
1874		1,200,000	800,000	217,800,000
1875		1,100,000	1,300,000	229,900,000
1876		1,300,000	1,200,000	229,000,000
1877		1,300,000	1,000,000	247,000,000
1878		1,800,000	1,600,000	238,500,000
1879		1,800,000	2,300,000	278,200,000
1880		1,500,000	2,600,000	340,300,000
1881		1,900,000	2,600,000	292,500,000
1882		1,800,000	3,100,000	338,700,000
1883		2,000,000	3,300,000	364,000,000
1884		1,800,000	3,400,000	367,400,000
1885		1,700,000	3,900,000	403,500,000

[1] Source: Rayon Organon, Special Supplement, Textile Economics Bureau, Inc., January 1938, p. 16. Domestic consumption of rayon fiber includes rayon filament yarn and rayon staple fiber. Domestic consumption is calculated as the sum of domestic shipments by American producers plus yarn imports for consumption.

[2] Source: Cotton Production and Distribution, Bureau of the Census, U. S. Department of Commerce, Bull. 167, p. 58, for the years, 1870 to 1904, inclusive; ibid., Bull. 174, p. 42, for the years, 1905 to 1937, inclusive. The 1938 figure is unpublished. Mill consumption in the United States of all growths of cotton. Statistics from 1870 to 1904, inclusive, are in bales of 500 pounds and include linters; statistics from 1905 to 1938, inclusive, are in running bales and exclude linters. As published, the annual figures are for cotton-years beginning in September. They are presented here as of the year the cotton year ends, i. e., September 1870–August 1871 is given as 1871. The Bureau of the Census has collected these figures since 1905. They obtained figures from publications of the Department of Agriculture for the years 1870 to 1895, and from reports of Latham, Alexander & Co., for the years 1896 to 1904.

[3] Source: Foreign Commerce and Navigation of the United States, Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce, 1870 to 1937. Net raw-silk imports are the difference between general imports and foreign exports. Figures for general imports have not been published since 1933 and "imports for consumption" have been used for this series since that year. Waste, cocoons, silk worms, and eggs of silk worms are excluded. Published figures prior to 1918 are for fiscal years. The entire series presented here is on a calendar-year basis. Although these are not manufacturers' consumption figures, they may be used as such because of the immediacy with which imports are delivered to manufacturers and the relatively small stocks of silk usually carried.

[4] Source: Agriculture Yearbook, U. S. Department of Agriculture, 1923, p. 1001, for the years 1870 to 1917, inclusive. Raw Wool Consumption Report, Bureau of the Census, U. S. Department of Commerce, annual reports, for the years 1918 to 1936, inclusive. The 1937 figure is preliminary and unpublished. The series from 1870 to 1917, inclusive, is "apparent wool consumption" and is the sum of domestic production and the excess of imports over all exports. The figures are not on any one comparable base but are roughly comparable to "greasy shorn" although some fleece and scoured wool are included and the greasy wool varies in the amount of grease by years and by origin of the wool. The figures, therefore, although not strictly comparable, represent the general trend from 1870 to 1917, inclusive. Mill consumption figures for the years 1918 to 1937, inclusive, are given on a greasy-shorn basis in order that they may be more nearly comparable with the earlier series.

Textile fiber consumption by United States manufacturers 1870–1937—Continued

Year	Total rayon fiber consumption (pounds)	Cotton (bales)	Net raw silk imports (pounds)	Wool consumption (pounds)
1886		2,100,000	4,800,000	422,900,000
1887		2,100,000	4,800,000	385,100,000
1888		2,200,000	5,400,000	374,100,000
1889		2,300,000	5,800,000	389,500,000
1890		2,500,000	4,600,000	381,700,000
1891		2,600,000	7,100,000	421,500,000
1892		2,800,000	7,800,000	458,200,000
1893		2,400,000	4,400,000	453,300,000
1894		2,300,000	7,800,000	436,600,000
1895		3,000,000	9,100,000	534,600,000
1896		2,500,000	4,900,000	417,300,000
1897		2,800,000	10,000,000	612,800,000
1898		3,500,000	8,400,000	361,900,000
1899		3,700,000	11,700,000	361,100,000
1900		3,700,000	8,100,000	425,100,000
1901		3,600,000	12,200,000	424,000,000
1902		4,100,000	13,600,000	489,000,000
1903		4,200,000	11,500,000	457,400,000
1904		4,000,000	16,400,000	476,000,000
1905		4,300,000	15,400,000	538,000,000
1906		4,900,000	16,700,000	491,000,000
1907		5,000,000	15,600,000	483,400,000
1908		4,500,000	18,600,000	446,500,000
1909		5,100,000	22,100,000	539,100,000
1910		4,600,000	21,500,000	492,400,000
1911	2,100,000	4,500,000	20,700,000	471,000,000
1912	2,900,000	5,100,000	24,700,000	540,300,000
1913	4,000,000	5,500,000	27,800,000	443,800,000
1914	5,200,000	5,600,000	25,500,000	540,000,000
1915	6,600,000	5,600,000	30,800,000	678,100,000
1916	6,600,000	6,400,000	32,000,000	725,100,000
1917	6,800,000	6,800,000	36,000,000	694,900,000
1918	6,000,000	6,600,000	32,300,000	715,000,000
1919	9,300,000	5,800,000	44,300,000	627,600,000
1920	8,700,000	6,400,000	29,300,000	580,200,000
1921	19,800,000	4,500,000	44,800,000	658,100,000
1922	24,700,000	5,900,000	50,100,000	770,500,000
1923	32,600,000	6,700,000	49,100,000	755,300,000
1924	42,200,000	5,700,000	50,500,000	644,700,000
1925	58,300,000	6,200,000	63,100,000	659,700,000
1926	60,600,000	6,500,000	65,600,000	644,600,000
1927	100,100,000	7,200,000	72,700,000	681,800,000
1928	100,500,000	6,800,000	74,700,000	650,000,000
1929	133,400,000	7,100,000	85,900,000	712,100,000
1930	118,800,000	6,100,000	72,300,000	533,500,000
1931	159,000,000	5,300,000	82,000,000	648,400,000
1932	155,300,000	4,900,000	71,300,000	498,400,000
1933	217,300,000	6,100,000	64,600,000	673,000,000
1934	197,200,000	5,700,000	53,500,000	470,100,000
1935	258,700,000	5,400,000	64,200,000	855,000,000
1936	322,600,000	6,400,000	58,100,000	769,800,000
1937	301,500,000	8,000,000	55,200,000	675,100,000
1938	[1] 275,000,000	5,700,000	[1] 48,700,000	[1] 498,200,000

[1] Estimated on basis of first 10 months of the year.

Exhibit No. 79

[Chart based on following statistical data appears in text on p. 145]

Percentage distribution of gainfully occupied persons 16 years of age and over [1]

Occupation group	1870	1880	1890	1900	1910	1920	1930
Agriculture and allied occupations	52.8	48.1	41.2	35.9	30.3	25.8	21.3
Domestic and personal service	62.4	56.9	50.9	45.9	40.9	34.6	32.6
Mining	63.9	58.5	52.7	48.0	43.5	37.3	34.6
Manufacturing and mechanical industries	85.9	83.3	79.0	75.5	72.1	67.8	63.2
Trade and transportation	95.0	94.0	92.6	91.8	89.5	85.8	83.9
Clerical service	96.7	96.0	95.1	94.6	94.1	93.0	92.1
Public service-n. e. c	97.3	96.7	96.0	95.6	95.2	94.6	93.5
Professional service	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Reproduced from a chart appearing in The Federal Chart Book, prepared by the Central Statistical Board and the National Resources Committee, 1938, p. 17. The chart is adapted from one prepared by Dr. Ralph G. Hurlin and Dr. Meredith B. Givens and published in Recent Social Trends in the United States. It is reproduced by permission of the publishers, McGraw-Hill Book Co. Basic data are from the decennial population censuses. For purposes of comparability, Drs. Hurlin and Givens reclassified some data and introduced certain estimates. Corrections were also made to allow for the probable overenumeration of women and children in agriculture in 1910 and for the probable underenumeration of farm laborers in 1920. The term agriculture as here used includes lumbering and fishing.

Exhibit No. 80

[Chart based on following statistical data appears in text on p. 146]

National income produced, 1919–37, by economic divisions [1]

Year	Producing, handling, and service divisions	Producing division	Handling division	Service division
1919	$67, 329, 000, 000	$31, 599, 000, 000	$17, 731, 000, 000	$17, 999, 000, 000
1920	68, 108, 000, 000	31, 423, 000, 000	17, 639, 000, 000	19, 046, 000, 000
1921	50, 680, 000, 000	18, 945, 000, 000	13, 517, 000, 000	18, 218, 000, 000
1922	58, 633, 000, 000	22, 742, 000, 000	15, 820, 000, 000	20, 071, 000, 000
1923	68, 000, 000, 000	28, 330, 000, 000	17, 986, 000, 000	21, 684, 000, 000
1924	67, 893, 000, 000	27, 306, 000, 000	17, 696, 000, 000	22, 891, 000, 000
1925	72, 720, 000, 000	29, 531, 000, 000	18, 805, 000, 000	24, 384, 000, 000
1926	74, 879, 000, 000	29, 907, 000, 000	19, 331, 000, 000	25, 641, 000, 000
1927	73, 741, 000, 000	28, 757, 000, 000	18, 895, 000, 000	26, 089, 000, 000
1928	77, 602, 000, 000	30, 031, 000, 000	19, 669, 000, 000	27, 911, 000, 000
1929	81, 129, 000, 000	31, 634, 000, 000	20, 309, 000, 000	29, 186, 000, 000
1930	68, 301, 000, 000	23, 973, 000, 000	17, 416, 000, 000	26, 912, 000, 000
1931	53, 822, 000, 000	15, 812, 000, 000	14, 318, 000, 000	23, 692, 000, 000
1932	40, 015, 000, 000	9, 519, 000, 000	10, 564, 000, 000	19, 932, 000, 000
1933	42, 257, 000, 000	12, 251, 000, 000	11, 000, 000, 000	19, 006, 000, 000
1934	50, 052, 000, 000	15, 975, 000, 000	12, 371, 000, 000	21, 706, 000, 000
1935	55, 184, 000, 000	18, 793, 000, 000	13, 237, 000, 000	23, 154, 000, 000
1936	63, 465, 000, 000	22, 577, 000, 000	14, 647, 000, 000	26, 241, 000, 000
1937	69, 817, 000, 000	25, 898, 000, 000	15, 759, 000, 000	28, 160, 000, 000

[1] Source: Income in the United States, 1929-37, Bureau of Foreign and Domestic Commerce, 1938. National Income and Capital Formation, 1919–35, Simon Kuznets, National Bureau of Economic Research, 1938.

The Department of Commerce estimates were used for the years 1929 to 1937, inclusive. For years prior to 1929 the Department of Commerce estimates were extrapolated on the basis of the trend of the estimates of the National Bureau of Economic Research. In order to make the two sets of estimates comparable, savings of government, imputed rent, and special adjustments of inventory valuations and of depreciation and depletion charges were eliminated from the estimates of the National Bureau. As a result of these adjustments, the 2 sets of figures in 1929 were very nearly the same.

EXHIBIT No. 81

[Chart based on following statistical data appears in text on p. 146]

National income produced, 1919–37, commodity producing division [1]

Year	Manufacturing	Agriculture	Construction	Mining
1919	$16, 901, 000, 000	$11, 286, 000, 000	$1, 723, 000, 000	$1, 689, 000, 000
1920	17, 627, 000, 000	9, 026, 000, 000	2, 262, 000, 000	2, 508, 000, 000
1921	9, 715, 000, 000	6, 254, 000, 000	1, 664, 000, 000	1, 312, 000, 000
1922	13, 315, 000, 000	5, 854, 000, 000	2, 116, 000, 000	1, 457, 000, 000
1923	16, 742, 000, 000	6, 720, 000, 000	2, 868, 000, 000	2, 000, 000, 000
1924	15, 266, 000, 000	7, 357, 000, 000	2, 993, 000, 000	1, 690, 000, 000
1925	16, 713, 000, 000	7, 803, 000, 000	3, 139, 000, 000	1, 876, 000, 000
1926	17, 194, 000, 000	7, 326, 000, 000	3, 227, 000, 000	2, 160, 000, 000
1927	16, 633, 000, 000	7, 231, 000, 000	3, 165, 000, 000	1, 728, 000, 000
1928	17, 771, 000, 000	7, 314, 000, 000	3, 313, 000, 000	1, 633, 000, 000
1929	19, 310, 000, 000	7, 263, 000, 000	3, 272, 000, 000	1, 789, 000, 000
1930	14, 205, 000, 000	5, 681, 000, 000	2, 850, 000, 000	1, 237, 000, 000
1931	9, 620, 000, 000	3, 706, 000, 000	1, 799, 000, 000	687, 000, 000
1932	5, 621, 000, 000	2, 442, 000, 000	978, 000, 000	478, 000, 000
1933	7, 735, 000, 000	3, 316, 000, 000	666, 000, 000	534, 000, 000
1934	9, 950, 000, 000	4, 388, 000, 000	726, 000, 000	911, 000, 000
1935	11, 802, 000, 000	5, 185, 000, 000	852, 000, 000	954, 000, 000
1936	14, 261, 000, 000	5, 883, 000, 000	1, 221, 000, 000	1, 212, 000, 000
1937	16, 744, 000, 000	6, 223, 000, 000	1, 475, 000, 000	1, 456, 000, 000

[1] Source: Income in the United States, 1929–37, Bureau of Foreign and Domestic Commerce, 1938. National Income and Capital Formation, 1919–35, Simon Kuznets, National Bureau of Economic Research, 1938.

The Department of Commerce estimates were used for the years 1929 to 1937, inclusive. For years prior to 1929 the Department of Commerce estimates were extrapolated on the basis of the trend of the estimates of the National Bureau of Economic Research. In order to make the 2 sets of estimates comparable, special adjustments of inventory valuations and of depreciation and depletion charges were eliminated from the estimates of the National Bureau. As a result of these adjustments, the 2 sets of figures in 1929 were very nearly the same.

EXHIBIT No. 82

[Chart based on following statistical data appears in text on p. 147]

National income produced, 1919–37, commodity handling division [1]

Year	Trade	Transportation and other public utilities	Year	Trade	Transportation and other public utilities
1919	$11, 149, 000, 000	$6, 582, 000, 000	1929	$10, 955, 000, 000	$9, 354, 000, 000
1920	9, 523, 000, 000	8, 116, 000, 000	1930	9, 108, 000, 000	8, 308, 000, 000
1921	6, 795, 000, 000	6, 722, 000, 000	1931	7, 330, 000, 000	6, 988, 000, 000
1922	8, 974, 000, 000	6, 846, 000, 000	1932	5, 183, 000, 000	5, 381, 000, 000
1923	10, 161, 000, 000	7, 825, 000, 000	1933	5, 815, 000, 000	5, 185, 000, 000
1924	9, 885, 000, 000	7, 811, 000, 000	1934	6, 852, 000, 000	5, 519, 000, 000
1925	10, 472, 000, 000	8, 333, 000, 000	1935	7, 362, 000, 000	5, 875, 000, 000
1926	10, 637, 000, 000	8, 694, 000, 000	1936	7, 962, 000, 000	6, 685, 000, 000
1927	10, 331, 000, 000	8, 564, 000, 000	1937	8, 693, 000, 000	7, 066, 000, 000
1928	10, 811, 000, 000	8, 849, 000, 000			

[1] Source: Income in the United States, 1929–37, Bureau of Foreign and Domestic Commerce, 1938. National Income and Capital Formation, 1919–35, Simon Kuznets, National Bureau of Economic Research, 1938.

The Department of Commerce estimates were used for the years 1929 to 1937, inclusive. For years prior to 1929 the Department of Commerce estimates were extrapolated on the basis of the trend of the estimates of the National Bureau of Economic Research. In order to make the 2 sets of estimates comparable, special adjustments of inventory valuations and of depreciation and depletion charges were eliminated from the estimates of the National Bureau. As a result of these adjustments, the 2 sets of figures in 1929 were very nearly the same.

EXHIBIT No. 83

[Chart based on following statistical data appears in text on p. 148]

National income produced, 1919–37, service division [1]

Year	Service	Finance	Government	Miscellaneous
1919	$5,556,000,000	$4,957,000,000	$4,841,000,000	$2,645,000,000
1920	6,074,000,000	5,251,000,000	4,931,000,000	2,790,000,000
1921	5,521,000,000	5,260,000,000	5,111,000,000	2,326,000,000
1922	6,649,000,000	5,730,000,000	5,167,000,000	2,525,000,000
1923	7,168,000,000	6,227,000,000	5,330,000,000	2,959,000,000
1924	7,602,000,000	6,761,000,000	5,487,000,000	3,041,000,000
1925	8,304,000,000	7,102,000,000	5,637,000,000	3,341,000,000
1926	8,807,000,000	7,408,000,000	5,832,000,000	3,594,000,000
1927	8,655,000,000	7,833,000,000	6,062,000,000	3,539,000,000
1928	9,238,000,000	8,601,000,000	6,273,000,000	3,799,000,000
1929	9,722,000,000	8,835,000,000	6,540,000,000	4,089,000,000
1930	8,869,000,000	7,781,000,000	6,720,000,000	3,542,000,000
1931	7,489,000,000	6,364,000,000	6,847,000,000	2,992,000,000
1932	5,692,000,000	5,123,000,000	6,727,000,000	2,390,000,000
1933	5,378,000,000	4,575,000,000	6,907,000,000	2,146,000,000
1934	6,196,000,000	4,974,000,000	7,952,000,000	2,584,000,000
1935	6,766,000,000	5,410,000,000	8,254,000,000	2,724,000,000
1936	7,524,000,000	5,944,000,000	10,077,000,000	2,696,000,000
1937	8,322,000,000	6,514,000,000	10,368,000,000	2,956,000,000

[1] Source: Income in the United States, 1929–37, Bureau of Foreign and Domestic Commerce, 1938, National Income and Capital Formation, 1919–35, Simon Kuznets, National Bureau of Economic Research, 1938.

The Department of Commerce estimates were used for the years 1929 to 1937, inclusive. For years prior to 1929, the Department of Commerce estimates were extrapolated on the basis of the trend of the estimate of the National Bureau of Economic Research. In order to make the 2 sets of estimates comparable, savings of Government, imputed rent, and special adjustments of inventory valuations and of depreciation and depletion charges were eliminated from the estimates of the National Bureau. As a result of these adjustments, the 2 sets of figures in 1929 were very nearly the same.

"EXHIBIT No. 84" appears in text on p. 149

EXHIBIT No. 85

[Chart based on following statistical data appears in text on p. 150]

Applications and patents, 1836 to 1937 [1]

Year	Applications filed	Patents issued	Year	Applications filed	Patents issued
1836	[2] 400	[2] 109	1859	6,225	4,504
1837	[3] 500	436	1860	7,653	4,778
1838	[3] 600	521	1861	4,643	3,329
1839	[3] 700	417	1862	5,038	3,532
1840	765	459	1863	6,014	4,184
1841	847	496	1864	6,972	5,025
1842	761	501	1865	10,664	6,616
1843	819	519	1866	15,269	9,458
1844	1,045	497	1867	21,276	13,026
1845	1,246	503	1868	20,445	13,410
1846	1,272	638	1869	19,271	13,997
1847	1,531	569	1870	19,171	13,333
1848	1,628	653	1871	19,472	13,056
1849	1,955	1,067	1872	18,246	13,613
1850	2,193	993	1873	20,414	12,864
1851	2,258	872	1874	21,602	13,599
1852	2,639	1,019	1875	21,638	14,837
1853	2,673	961	1876	21,425	15,595
1854	3,324	1,844	1877	20,308	14,187
1855	4,435	2,013	1878	20,260	13,444
1856	4,960	2,505	1879	20,059	13,213
1857	4,771	2,896	1880	23,012	13,947
1858	5,364	3,695	1881	26,059	16,584

[1] Source: United States Patent Office, U. S. Department of Commerce.
[2] The figures for 1836 are for the period July 4 to Dec. 31, subsequent to the passage of the patent law on July 4, 1836.
[3] Estimated.

Applications and patents, 1836 to 1937—Continued

Year	Applications filed	Patents issued	Year	Applications filed	Patents issued
1882	31, 522	19, 267	1910	64, 629	35, 930
1883	34, 576	22, 383	1911	69, 121	34, 084
1884	35, 600	20, 413	1912	70, 976	37, 731
1885	35, 717	24, 233	1913	70, 367	35, 788
1886	35, 968	22, 508	1914	70, 404	41, 850
1887	35, 613	21, 477	1915	70, 069	44, 934
1888	35, 797	20, 506	1916	71, 033	45, 927
1889	40, 575	24, 158	1917	70, 373	42, 760
1890	41, 048	26, 292	1918	59, 015	39, 941
1891	40, 552	23, 244	1919	80, 400	38, 598
1892	40, 753	23, 559	1920	86, 815	39, 882
1893	38, 473	23, 769	1921	93, 328	41, 401
1894	38, 439	20, 867	1922	88, 930	40, 297
1895	40, 680	22, 057	1923	80, 653	40, 787
1896	43, 982	23, 373	1924	90, 888	45, 500
1897	47, 905	23, 794	1925	84, 627	49, 540
1898	35, 842	22, 267	1926	86, 116	47, 627
1899	41, 443	25, 527	1927	92, 122	44, 444
1900	41, 980	26, 499	1928	92, 725	45, 899
1901	46, 449	27, 373	1929	94, 738	48, 565
1902	49, 641	27, 886	1930	94, 203	48, 322
1903	50, 213	31, 699	1931	84, 423	55, 103
1904	52, 143	30, 934	1932	71, 864	56, 856
1905	54, 971	30, 399	1933	60, 633	51, 563
1906	56, 482	31, 965	1934	61, 572	47, 753
1907	58, 762	36, 620	1935	64, 073	44, 944
1908	61, 475	33, 682	1936	69, 221	44, 820
1909	65, 839	37, 421	1937	72, 592	43, 271

EXHIBIT No. 86

[Chart based on following statistical data appears in text on p. 151]

Output of commodities [1]

	Percent durable commodities	Percent nondurable commodities		Percent durable commodities	Percent nondurable commodities
1879	31	69	1914	37	63
1889	35	65	1919	38	62
1899	36	64	1925	41	59
1904	36	64	1929	44	56
1909	37	63	1933	27	73

[1] Source: Commodity Flow and Capital Formation 1919–1935, Simon Kuznets, National Bureau of Economic Research, for the years 1919 to 1933, inclusive. Figures for years piror to 1919 were provided by the courtesy of Dr. Wesley C. Mitchell, Director of Research of the National Bureau of Economic Research.

Percentages are based on dollar figures at current manufacturers' prices. Durable commodities include construction materials and consumer durable goods.

EXHIBIT No. 87

[Chart based on following statistical data appears in text on p. 153]

Production of durable and nondurable manufactured products, 1929–38 [1]

[Monthly index numbers, 1929=100]

	Nondurable products	Durable products		Nondurable products	Durable products
1929			**1934**		
January	101.2	100.1	January	82.7	44.0
February	99.7	99.2	February	83.8	48.5
March	100.3	101.5	March	83.8	52.9
April	102.0	102.4	April	85.1	56.6
May	101.4	105.8	May	84.5	58.9
June	102.5	111.1	June	79.9	58.9
July	100.5	110.6	July	80.9	41.7
August	101.4	105.2	August	82.0	37.5
September	101.0	102.7	September	78.3	35.5
October	101.2	98.1	October	84.4	34.9
November	96.6	88.1	November	84.2	37.2
December	92.2	75.6	December	89.5	51.5
1930			**1935**		
January	93.6	82.4	January	88.8	60.9
February	92.2	88.3	February	86.4	61.4
March	90.8	84.9	March	84.9	59.5
April	91.1	84.6	April	85.7	58.3
May	88.2	82.2	May	86.6	53.7
June	84.9	78.9	June	85.1	56.6
July	83.8	70.4	July	86.0	58.3
August	81.4	66.7	August	86.4	62.9
September	84.5	63.7	September	87.9	65.6
October	84.7	59.2	October	90.8	68.5
November	82.8	57.2	November	89.2	73.3
December	81.8	54.7	December	92.4	77.4
1931			**1936**		
January	82.0	56.4	January	91.2	69.5
February	85.7	57.6	February	88.2	64.9
March	86.4	59.2	March	87.7	67.6
April	88.1	58.1	April	89.5	78.0
May	88.6	56.4	May	89.2	80.8
June	86.0	51.0	June	92.1	84.0
July	88.4	47.8	July	96.1	87.9
August	86.8	42.3	August	97.3	86.9
September	86.8	37.7	September	97.5	87.4
October	82.0	35.7	October	95.9	89.9
November	80.4	37.5	November	100.1	92.6
December	81.7	38.3	December	107.7	96.0
1932			**1937**		
January	81.8	35.3	January	100.5	92.7
February	79.3	32.8	February	101.6	93.5
March	76.6	29.2	March	102.7	93.6
April	71.3	28.7	April	102.3	96.9
May	68.6	27.8	May	99.6	99.2
June	68.4	27.1	June	98.8	92.9
July	69.4	23.9	July	92.7	100.6
August	75.8	21.1	August	94.3	104.1
September	82.9	24.1	September	91.8	94.4
October	81.8	25.7	October	86.0	83.5
November	77.3	26.9	November	80.9	61.5
December	76.7	28.7	December	81.2	49.8
		K			
1933			**1938**		
January	75.3	29.1	January	79.9	46.7
February	73.6	26.6	February	80.1	44.9
March	69.9	22.1	March	79.9	44.4
April	78.2	29.2	April	78.8	43.5
May	89.7	38.0	May	79.6	41.7
June	101.2	52.1	June	81.7	41.5
July	102.7	66.9	July	87.3	48.1
August	93.8	58.1	August	92.2	52.9
September	89.2	48.9	September	92.1	56.7
October	81.5	43.8	October	90.5	68.9
November	80.9	35.3			
December	77.3	44.0			

[1] Source: The Board of Governors of the Federal Reserve System. Index originally computed on a 1923–25 base but converted here to a 1929 base.

Data are based on daily average physical volume and are adjusted for seasonal variation. Durable goods include iron and steel, automobiles, lumber, shipbuilding, locomotives, nonferrous metals, cement, polished plate glass, and coke; nondurable goods include textiles, leather and products, foods, tobacco products, paper and printing, petroleum refining, and automobile tires and tubes.

Exhibit No. 88

[Chart based on following statistical data appears in text on p. 154]

United States foreign trade in merchandise

Year	Total exports [1] (millions of dollars)	General imports [2] (millions of dollars)	Ratio of exports to total production of movable goods [3]	Year	Total exports [1] (millions of dollars)	General imports [2] (millions of dollars)	Ratio of exports to total production of movable goods [3]
1919	7,920.4	3,904.4	16.0	1929	5,241.0	4,399.4	9.8
1920	8,228.0	5,278.5	----------	1930	3,843.2	3,060.9	----------
1921	4,485.0	2,509.1	12.8	1931	2,424.3	2,090.6	7.4
1922	3,831.8	3,112.7	----------	1932	1,611.0	1,322.8	----------
1923	4,167.5	3,792.1	8.9	1933	1,675.0	1,449.6	6.6
1924	4,591.0	3,610.0	----------	1934	2,132.8	1,655.1	----------
1925	4,909.8	4,226.6	10.1	1935	2,282.9	2,047.5	6.8
1926	4,808.7	4,430.9	----------	1936	2,456.0	2,422.6	----------
1927	4,865.4	4,184.7	9.9	1937	3,349.2	3,083.7	7.5
1928	5,128.4	4,091.4	----------				

[1] Source: Foreign Commerce and Navigation of the United States, Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce. Exports represent total exports of merchandise, including reexports of foreign merchandise.

[2] Source: Foreign Commerce and Navigation of the United States, Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce. General imports include merchandise entering into consumption channels immediately upon arrival in the United States and entries into bonded warehouses.

[3] Source: Foreign Trade of the United States, Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce. Production of movable goods represents the sum of gross income from farm production, value added to materials by manufacture, value of mine products, and total railroad freight receipts.

EXHIBIT No. 89

[Chart based on following statistical data appears in text on p. 155]

Wholesale prices, all commodities, 1801–1937[1]

[Index numbers 1926=100]

Year:	Index	Year:	Index	Year:	Index
1801	111. 8	1847	64. 9	1893	53. 4
1802	91. 8	1848	61. 8	1894	47. 9
1803	93. 9	1849	60. 1	1895	48. 8
1804	101. 5	1850	62. 3	1896	46. 5
1805	104. 2	1851	64. 5	1897	46. 6
1806	102. 2	1852	62. 5	1898	48. 5
1807	96. 0	1853	66. 4	1899	52. 2
1808	93. 9	1854	68. 8	1900	56. 1
1809	98. 7	1855	68. 9	1901	55. 3
1810	107. 7	1856	68. 9	1902	58. 9
1811	104. 9	1857	68. 5	1903	59. 6
1812	106. 3	1858	62. 0	1904	59. 7
1813	123. 6	1859	61. 0	1905	60. 1
1814	154. 6	1860	60. 9	1906	61. 8
1815	121. 5	1861	61. 3	1907	63. 2
1816	103. 5	1862	71. 7	1908	62. 9
1817	104. 2	1863	90. 5	1909	67. 6
1818	102. 2	1864	116. 0	1910	70. 4
1819	89. 7	1865	132. 0	1911	64. 9
1820	76. 6	1866	116. 3	1912	69. 1
1821	73. 2	1867	104. 9	1913	69. 8
1822	75. 2	1868	97. 7	1914	68. 1
1823	71. 8	1869	93. 5	1915	69. 5
1824	71. 1	1870	86. 7	1916	85. 5
1825	71. 8	1871	82. 8	1917	117. 5
1826	71. 1	1872	84. 5	1918	131. 3
1827	71. 8	1873	83. 7	1919	138. 6
1828	68. 3	1874	81. 0	1920	154. 4
1829	67. 6	1875	77. 7	1921	97. 6
1830	65. 6	1876	72. 0	1922	96. 7
1831	70. 4	1877	67. 5	1923	100. 6
1832	71. 1	1878	61. 7	1924	98. 1
1833	70. 4	1879	58. 8	1925	103. 5
1834	65. 6	1880	65. 1	1926	100. 0
1835	74. 6	1881	64. 4	1927	95. 4
1836	83. 5	1882	66. 1	1928	96. 7
1837	82. 8	1883	64. 6	1929	95. 3
1838	79. 4	1884	60. 5	1930	86. 4
1839	83. 5	1885	56. 6	1931	73. 0
1840	71. 1	1886	56. 0	1932	64. 8
1841	70. 5	1887	56. 4	1933	65. 9
1842	65. 7	1888	57. 4	1934	74. 9
1843	61. 8	1889	57. 4	1935	80. 0
1844	62. 1	1890	56. 2	1936	80. 8
1845	62. 6	1891	55. 8	1937	86. 3
1846	64. 8	1892	52. 2		

[1] Source: Bureau of Labor Statistics, U. S. Department of Labor.

The index numbers from 1890 to 1936 are the regular weighted series of the Bureau of Labor Statistics, computed by the same method throughout and published currently. The number of price series included has been changed from time to time, and at present totals 784. The figures for years prior to 1890 are arithmetic averages of unweighted index numbers of individual commodities, and are here converted to the 1926 base in conformity with the Bureau's practice.

SUPPLEMENTAL DATA

The following statement is printed at this point in connection with Mr. Henderson's testimony on p. 162:

In preparing my estimates of unemployment, I have used the estimates of the National Industrial Conference Board for the total labor force. On the whole they seem the most reasonable. They provide for an average annual increase of about 625,000 in the total labor force from 1929 to date. The estimate for November 1937 came closer to the labor force indicated by the unemployment census than other current estimates. It was about 900,000 below the optimum figure of 54,474,000 indicated by the Unemployment Census.

The methodology used by the National Industrial Conference Board is described in the following excerpts from its Conference Bulletin of July 30, 1938:

The labor force, viewed as a reservoir of potential workers having gainful occupations, must of necessity have an inertia with respect to its size and growth. That is to say, the number of persons available on call plus the number engaged in remunerative pursuits does not fluctuate with business swings. Each year there is an outflow of workers from the force through emigration, death, retirement, physical disability, and the like; but there is also an inflow through immigration, increased age of young people, termination of education, increasing remunerative occupations for women, and so forth. Underlying these flows in and out of the labor force are such basic factors as a changed standard of living, increased mechanization, population, age composition, and growth.

In the past eight years the labor force of the country is estimated to have increased roundly 10%. The Census of Occupations enumerated 48,830,000 gainful workers for April 1, 1930. By the middle of June, 1938, this total is estimated to have increased to 53,936,000.

The estimated yearly growth during this interval was not uniform owing to the fact of unequal changes in the general population available for the labor force. During the years 1930 to 1937, inclusive, the average annual growth of the labor force averaged 621,000 persons.

Such annual increases have had an appreciable effect on the total number of unemployed estimated. Thus, between September, 1929 and June, 1938 new workers in the labor force increased by 5,440,000 persons.

Estimates of the size of the labor force were based upon determinable relations between the number of workers of different races, ages, and sexes and the number of persons in these groups in the total population constituting the general source of labor supply. The latest year for which data on these relations can be computed is 1930, when the censuses of occupations and of population furnished descriptive details of gainful workers and comparable details of the population.

For subsequent years, estimates of the population could be computed for mortality statistics and net immigration. The relation of workers in the labor force in 1930 to available population by descriptive classes were applied to estimates of population for subsequent years to obtain first approximations to the number of workers in these years. These approximations were then corrected to allow for changes in school enrollment, the only additional factor which could reasonably be regarded as affecting the size of the economic labor force.

This indirect statistical procedure for estimating the total number of persons in the labor force was necessary because there are virtually no figures on the new additions who have come of age nor on the number of withdrawals which might have been used to bring up to date the 1930 census enumeration of gainful workers.

The following tables are included at this point in connection with Mr. Henderson's testimony on pp. 162 and 167:

[Extract from the Statistical Abstract of the United States, 1937, p. 53]

Persons 10 years of age and over—number in total population and number gainfully occupied: By sex and age, 1930, continental United States

Year and age	Total			Male			Female		
	Total number 10 years of age and over	Gainfully occupied		Total number 10 years of age and over	Gainfully occupied		Total number 10 years of age and over	Gainfully occupied	
		Number	Per-cent		Number	Per-cent		Number	Per-cent
1930	98, 723, 047	48, 829, 920	49. 5	49, 949, 798	38, 077, 804	76. 2	48, 773, 249	10, 752, 116	22.0
10 to 13 years	9, 622, 492	235, 328	2. 4	4, 862, 291	162, 260	3. 3	4, 760, 201	73, 068	1. 5
14 years	2, 382, 385	157, 660	6. 6	1, 206, 486	110, 839	9. 2	1, 175, 899	46, 821	4. 0
15 years	2, 295, 699	274, 130	11. 9	1, 154, 648	187, 643	16. 3	1, 141, 051	86, 487	7. 6
16 years	2, 367, 315	587, 617	24. 8	1, 181, 920	386, 511	32. 7	1, 185, 395	201, 306	17. 0
17 years	2, 295, 822	891, 024	38. 8	1, 157, 150	577, 983	49. 9	1, 138, 672	313, 041	27. 5
18 and 19 years	4, 593, 279	2, 542, 213	55. 3	2, 264, 107	1, 599, 768	70. 7	2, 329, 172	942, 445	40. 5
20 to 24 years	10, 870. 378	7, 147, 053	65. 7	5, 336, 815	4, 799, 505	89. 9	5, 533, 563	2, 347, 548	42. 4
25 to 29 years	9, 833, 608	6, 255, 677	63. 6	4, 860, 180	4, 714, 266	97. 0	4, 973, 428	1, 541, 411	31. 0
30 to 34 years	9, 120, 421	5, 567, 327	61. 0	4, 561, 786	4, 454, 400	97. 6	4, 558, 635	1, 112, 927	24. 4
35 to 39 years	9, 208, 645	5, 619, 242	61. 0	4, 679, 860	4, 571, 641	97. 7	4, 528, 785	1, 047, 601	23. 1
40 to 44 years	7, 990, 195	4, 881, 298	61. 1	4, 136, 459	4, 036, 561	97. 6	3, 853, 736	844, 737	21. 9
45 to 49 years	7, 042, 279	4, 276, 070	60. 7	3, 671, 924	3, 569, 094	97. 2	3, 370, 355	706, 976	21. 0
50 to 54 years	5, 975, 804	3, 555, 091	59. 5	3, 131, 645	2, 996, 041	95. 7	2, 844, 159	559, 050	19. 7
55 to 59 years	4, 645, 677	2, 640, 064	56. 8	2, 425, 902	2, 256, 771	93. 0	2, 219, 685	383, 293	17. 3
60 to 64 years	3, 751, 221	1, 950, 528	52. 0	1, 941, 508	1, 684, 743	86. 8	1, 809, 713	265, 785	14. 7
65 to 69 years	2, 770, 605	1, 227, 042	44. 3	1, 417, 812	1, 072, 900	75. 7	1, 352, 793	154, 142	11. 4
70 to 74 years	1, 950, 004	642, 902	33. 0	991, 647	570, 233	57. 5	958, 357	72, 669	7. 6
75 years and over	1, 913, 196	335, 023	17. 5	915, 752	265, 616	32. 3	997, 444	39, 407	4. 0
Unknown	94, 022	44, 431	47. 3	51, 816	31, 029	59. 9	42, 206	13, 402	31. 8

Source: Bureau of the Census, Department of Commerce.

Estimated number of persons in the United States, in each functional class, by sex, November 1937 [1]

[Data for persons 15-74 years of age]

Class and sex	TOTAL	*Estimated total number*
Population		93, 063, 000
Persons employed or available for employment		54, 474, 000
Totally unemployed		8, 928, 000
Emergency workers		2, 055, 000
Partly unemployed		5, 550, 000
Part-time workers (not wanting more work)		1, 190, 000
Fully employed		36, 079, 000
Ill or voluntarily idle		672, 000
Persons not available for employment		38, 589, 000

[1] The estimated totals for the unemployed classes and partly unemployed were obtained by dividing the total number of voluntary registrations in each age-sex group by the corresponding percent of completeness of registration, as determined from the enumerative check, and by adding together the estimates for each age group thus obtained. The estimates for all other classes were made by multiplying the age-sex specific percentages of population in each functional class by the corresponding total population in the United States. The total population was estimated independently, and may be considered highly accurate. Both methods of estimating assume that the percentages within any specific age-sex group are the same in areas that do not have postal delivery service as in postal-delivery areas.

Source: Final Report on Total and Partial Unemployment, 1937, vol. IV.

Estimated number of persons in the United States, in each functional class, by sex November 1937—Continued

	Estimated total number
MALE	
Population	46, 704, 000
Persons employed or available for employment	39, 978, 000
Totally unemployed	5, 761, 000
Emergency workers	1, 657, 000
Partly unemployed	4, 058, 000
Part-time workers (not wanting more work)	688, 000
Fully employed	27, 399, 000
Ill or voluntarily idle	415, 000
Persons not available for employment	6, 726, 000
FEMALE	
Population	46, 359, 000
Persons employed or available for employment	14, 496, 000
Totally unemployed	3, 167, 000
Emergency workers	398, 000
Partly unemployed	1, 492, 000
Part-time workers (not wanting more work)	502, 000
Fully employed	8, 680, 000
Ill or voluntarily idle	257, 000
Persons not available for employment	31, 863, 000

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